THE JOURNAL OF LITERATURE AND SCIENCE

Published under the Auspices of the Madras Literary Society and Auxiliary of the Royal Asiatic Society.

VOL. I.

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THE JOURNAL OF LITERATURE AND SCIENCE

Published under the Auspices of the Madras Literary Society

AND

Auxiliary of the Royal Asiatic Society.

EDITED BY

J. C. MORRIS, F. R. S.

SECRETARY OF THE MADRAS LITERARY SOCIETY, &c.

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CONTENTS.

No. 1.—OCTOBER.

Pages.

Introductory Notice.... 1

I. Description of the Hill Tribes in Travancore by Lieut. Conner ... *ib*

II. History of the Christians on the Malabar Coast—By the Venerable Archdeacon Robinson, M. A. 7

III. Description and drawings of some remarkable Palmyra trees in the Northern Circars,—By Colonel Bowler 13

IV. An account of the Hindoo, Holy days and festivals by Venketrow late Interpreter to the Officer Commanding Vellore, with considerable alterations and additions by the Editor.... 15

V. The ceremonial of the Ordination of a Burmese Priest of Budd'ha with notes, communicated by George Knox, Esq. of the Honorable East India Company's Medical Establishment, Madras. (Transactions of the Royal Asiatic Society.) 25

VI. Meteorological Register kept at Manantoddy by Captain Minchin. 38

VII. Meteorological Register kept at the Madras Observatory; for August, 1833,—By T. G. Taylor, Esq........ 39

VIII. Proceedings of the Royal Asiatic Society...... 40

IX. Proceedings of the Madras Literary Society, &c. &c......... 42

X. Appendix.. 44

No. 2.—JANUARY.

I. Extract from the Memoir of the Survey of Travancore, compiled by Lieut. Conner........ 54

II. An Account of the Island and Bridge of Sivásamudram in the Cáverí River. By Rámaswámí Múdelliar, Jághíredár of the Island. (Extracted from the Transactions of the Royal Asiatic Society Vol. 3. Part 2d.).... 83

III. An Historical account of the Christians on the Malabar Coast,—By the Venerable Archdeacon, Robinson, M. A.... 94

IV. A short notice of Earthquakes,—By Asst. Surg. B. W. Wright. ..104

V. Hints for establishing a new system of supplying tanks with water, adapted particularly for the Carnatic, to enable the cultivation of rice and agriculture in general, to be carried to an indefinite extent without being dependent on the fall of rain in any particular district for a supply of water.... 111

VI. Note, by a Member, on Colonel Bowler's description of the branched Palmyra trees.... 114

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VII. Proceedings of a Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held at the Society's Rooms, at the College, on Thursday the 28th November 1833..........116

VIII. Meteorological Register kept at the Madras Observatory; for the months of September, October and November, 1833,—By T. G. Taylor, Esq. H. C. Astronomer.. 119

No. 3.—APRIL.

I. A sketch of the History of the Ramoossies, residing in the Sattarah Territory and in the Poona and Ahmednuggur Districts—By Capt. Alexander Mackintosh of the 27th Regiment M. N. I. Commanding Ahmednuggur Local Corps.. 126

II. On the Mode of raising water in India—By Mechanicus........160

III. Translation of an extract from Tohfet al Akbar; or, a history of the Rulers, Rajahs, and Jaghiredars of the Carnatic—By an Officer of the Madras Army.... 166

IV. Marine Barometer,—Theory of Storms, &c.... 169

V. Memorandum on the Tides at Madras—By Lt. Col. DeHavilland of the Madras Engineers...... 179

VI. Translation from a work by M. M. Botté et Riffault, detailing, the method pursued in France, of extracting Saltpetre from the soil, and of ascertaining the quality of Saltpetre by assay.—Communicated by Lieut. Col. Napier.. 182

VII. Assay of Saltpetre according to the principle established by M. M. Botté et Riffault in France.. 190

VIII. Proceedings of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held at the College, on Thursday the 30th January 1834.. 192

IX. Proceedings of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held at the Society's rooms, at the College, on Thursday evening the 27th February 1834.. 194

X. Meteorological Register kept at the Madras Observatory; for the months of December 1833; and January and February 1834....199

No. 4.—JULY.

I. A sketch of the History of the Ramoossies, residing in the Sattarah Territory and in the Poona and Ahmednuggur Districts—By Capt. Alexander Mackintosh of the 27th Regiment M. N. I. Commanding Ahmednuggur Local Corps.. 206

II. On the state of Slavery in Southern India by A. D. Campbell, Esq. M. C. S. (Extracted from appendix to Report from Select Committee on the affairs of the East India Company).. 248

III. An Historical account of the Christians on the Malabar Coast, by the Venerable Archdeacon Robinson, A. M. Part 3d.. ..255

IV. Climate of Seringapatam, Lat. 12° 45′ N. Long. 76° 51′ E. (Extracted from the Journal of the Asiatic Society, of Bengal.).. ..269

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V. Experiments on the preservation of sheet iron from rust in India, by James Princep, Esq. Secretary &c. (Extracted from the Journal of the Asiatic Society of Bengal.) 270
VI. Scientific Intelligence 273
VII. Meteorological Register kept at the Madras Observatory; for the months of March, April, and May, 1834 297

No. 5.—OCTOBER.

I. A sketch of the History of the Ramoossies, residing in the Sattarah Territory and in the Poona and Ahmednuggur Districts—by Capt. Alexander Mackintosh of the 27th Regt. M. N. I. Commanding Ahmednuggur Local Corps. 212
II. A Review of "Illustrations of the Botany and other branches of the Natural History of the Himalayan mountains and of the Flora of Cashmere.—By John F. Royle, F.L.S. & G.S.M.R.A.S. &c." 316
III. Geology of the South of India,—By J. G. Malcolmson, Asst. Surg. 329
IV. An Historical account of the Christians on the Malabar Coast, by the Venerable Archdeacon Robinson, A. M. Part IV. 342
V. On the State of Education of the Natives in Southern India by A. D. Campbell, Esq. M. C. S. 350
VI. Transactions of the Royal Asiatic Society of Great Britain and Ireland. 359
VII. Metrological Register kept at the Madras Observatory; for the months of June, July and August, 1834. 363

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INTRODUCTORY NOTICE.

In presenting the first number of the Madras Journal of Literature and Science to the public it is considered advisable to offer a few observations, with respect to the causes that have given rise to its publication and to the general scope and object of its operations. The absence has long been felt and generally regretted of a Journal at this Presidency which might form a channel of immediate publicity to the communications of those interested in the cause of Literature and Science. The public prints of the day are obviously ill calculated for the purpose, and the opportunity presented by the publication of the transactions of the Literary Society is by far too distant and uncertain.

The consequence has been that many valuable and interesting communications, which would otherwise have contributed to the fame and credit of this Presidency, have been transferred to, and served to add to the literary laurels of the sister Presidencies, where several periodical publications of a literary and scientific character have long since been established.

At the present period when the attention of England is particularly directed towards this interesting country, and every communication tending to the developement of its resources or to add to the information we already possess in regard to its inhabitants, their manners and customs, is sought with the greatest avidity, it appears the more incumbent that each Presidency should contribute its respective share of information on these points, with the view of distinguishing the great and remarkable difference which exists in the people, their institutions, and usages, in different parts of the British territory in the East.

The great and well deserved success that has attended the Journal of the Asiatic Society of Calcutta, has pointed it out as a fit and appropriate model after which to found the Madras Periodical which is about to be established, under the aus-

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pices of the Literary Society and Auxiliary of the Royal Asiatic Society.

The work in question will not however be confined to papers drawn from the archives of the Society; nor is it intended to be restricted to elaborate essays or scientific disquisitions, but will be open to communications of a less formal nature upon every subject tending to afford useful information in regard to the people and country of India.

It is evident indeed that the work cannot prosper if dependant alone on the limited stores of the Society and that it must mainly depend for success upon the support it may receive from the community at large, who will find in it, a ready vehicle for conveying to the world the result of their discoveries, researches, and observations, in all that relates to the literature, arts, sciences, natural history &c. &c. of this country.

That much has been done in the cause, is sufficiently evidenced by the numerous valuable works relating to India that have, from time to time, been published, but still it cannot be denied that enough remains to afford an abundant and satisfactory harvest to the labourer in the Indian vineyard.

As every person of ordinary intelligence and observation must have remarked that the natives have of late years sensibly relaxed in many of their prejudices, and as our knowledge of their character and customs as well as our facilities of communicating with them have at the same time materially increased, it may likewise be added that Individuals in the present day, enjoy advantages in the prosecution of their inquiries that were not possessed by their precursors in this field of labor.

It is not considered necessary to enter into a lengthened dissertation as to the several points likely to reward the researches of the intelligent and the curious, in as much as, in the Desiderata of the Royal Asiatic Society which are republished as an Appendix to this month's number, and to which the attention of the public is particularly requested, are fully specified the several subjects on which information is still wanting.

The mine there can be no doubt still contains an abundance

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of rich and valuable material and all that is required are labourers willing and able to bring its resources to light.

To the Desiderata above mentioned is appended the form of a Meteorological Register and as it is obviously desirable that as accurate and extensive information as possible, should be obtained in regard to the climate of the different stations of this Presidency, communications in the form exhibited are particularly solicited.

It only remains to state, that with the view of rendering the Madras Journal as valuable and attractive as possible, it is intended to introduce therein, either in their original state or in a condensed form, any articles of a peculiarly interesting nature that may appear in the Journals of the Asiatic Societies of Calcutta, London, and Paris.

It is necessary however to repeat that the success of the "Madras Journal" is mainly dependant upon the exertions of the community of this Presidency. To that community an appeal is now made for encouragement and support—and it is confidently assumed that that appeal will not be made in vain. The stimulus to exertion is to be found in no light and vain cause, but in objects the most attractive that can influence the human mind to put forth its energies: the investigation of the mysteries of nature, promotion of the researches of science, advancement in the progress of literature and the knowledge of our fellow men. With such aid and encouragement thus contributed there is every reasonable expectation that the Madras Journal of Literature and Science will prosper and flourish and prove alike a credit to the intelligence and assiduity and an ornament to the literary stores of our community.

MADRAS, 25th September, 1833.

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MADRAS JOURNAL

OF

LITERATURE AND SCIENCE.

No. 1.—*October,* 1833.

1.—*Extract from the General Memoir of the Survey of Travancore, by Lieutenant* P. E. Conner, *being a description of the Hill Tribes in that country.*

(Read at a Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held on Thursday the 23d of May 1833.)

A few wild but inoffensive mountaineers share amongst them the whole of the hilly parts. It is difficult to fix their total,* but they are not numerous. Influenced by all the prejudices of Caste, they are divided into several distinct tribes, who have little intercourse with each other. But their character is similar, or only distinguished by minute shades. It partakes of the rude wildness of their Hills, but is in no instance ferocious. Though living in clans, they have little of that union and attachment that belongs to such an association. Each Society has its little chief, most of them owe general allegiance to the Rajahs of Pundalum and Puniatta, caprice leads them to occasionally transfer their fealty, called Mopen, to the south Kuneecar, whose authority, rather domestic than despotic, is willingly submitted to. Their mode of life too, is every where the same, subsistence being chiefly derived from the spontaneous produce of the wilderness through which they roam. The spoils of the chase (of which they often rob the Chennai) yields a precarious addition, and the collection of the Hill products affords the means of obtaining the few course luxuries suitable to their taste. Wicker work (made from bamboos) in which they are very ingenious, is the only art they practice. They are not exempt from the fever common to the Hills, but are in general hardy, and

*** It would appear certainly greater than that given in the Statistic Table, so scattered we shall not be surprised at any incorrectness in the enumeration.**

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endure privation with stoicism, a virtue that the wretchedness of their situation too often calls into action. Of migratory habits they move about in small hordes, necessity alone leads them to the inhabited parts, where no inducement could persuade them permanently to remain. In their rambling tours they carry a staff or pike, a knife stuck in the girdle, and sometimes bows and arrows, for they have no fire arms. A basket, slung at the shoulders, contains some few necessary utensils; and followed by their dogs and women, the latter loaded with the younger children and other impediments of the family, they wander from one place to another, as caprice or convenience may dictate. Their huts are soon erected, often on rocks, or trees, a security against tigers and elephants, their fellow occupants of the woods, with whom they share or dispute possession. Conversing among themselves, they are unintelligible to those from the inhabited parts, this however only arises from the dissonant sound conveyed by their harsh and abrupt utterance. Each tribe is intimately well acquainted with the tract considered particularly its own, and on whose precincts they do not admit encroachments. They trace, as by instinct, its devious paths, and decide with almost unerring certainty on the number and variety of animals that may have lately traversed them. They are restrained or confine themselves to one wife or mistress, often their neice, a connection aimed at as securing the purity of the race; the offspring in most cases is considered as belonging to the mother. Their superstitions are said to have a favorable influence on their morality, but the women, subject to every species of hardship and drudgery, can have but little leisure or disposition to be incontinent. Their dress only differs from that of the Nairs, in covering the upper part of the person with an abundance of cloth, but it is an equivocal benefit, cleanliness being in this instance sacrificed to decorum, as they do convenience to ornament, in encumbering the ears with pendants, and loading the neck with countless strings of beads, decorations little adapted to their vagrant mode of life. They are haunted by a variety of superstitions, large tracts of forests sacred to some ideal spirit, however great the temptations their productions might offer, are scrupulously avoided by them; some regard the head with particular veneration, and will not carry any burthen on it. Women under certain circumstances, or when parturient, are objects whose approach or contact is dreaded, in the latter case they are removed to a hut (being supposed to pollute it by their presence) some distance from the village, and the event trusted to the unaided operations of nature. Those mountaineers

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are small in person, are often of a meagre appearance, but have the usual Hindu lineaments, except the

Cowders—Whose flattened nose, robust make, dark complexion, occasionally curly hair, and large white teeth, filed into the form of a saw, (some other classes of hill people observe a similar practice) give them an African appearance, though their features are by no means so harsh—their hardiness has given rise to the observation amongst their neighbours, that the Cowder and Caad Aumey, (wild elephant,) is much the same sort of animal. They inhabit the Kodagerry Hills, bordering the northern parts of Cochin, and engage themselves to the renters (belonging to Coimbatoor) of those forests, whose productions they alone can collect. The Cowders are infinitely better situated than the

Vaishwans--Occupying the Iddiara and Mulliator Hills, a miserable puny race, vitiated by use of opium; they are employed in in the Timber Department, and the profit of their labours dissipated in the purchase of this pernicious drug; they are ever in the extremes of stupid langour or inebriety.

Moodavenmars—Secluded amongst the Chenganad and Neereamungalum Hills, and nominally dependant on the Pagodas bearing those names, the Moodavenmars (or male Addeens) have not been corrupted by an intercourse with the plain. They rank high in point of precedency, were originally Vellaulars, tradition representing them as having accompanied some of the Madura princes to those Hills.—They are somewhat more civilized than the other Hill tribes; at least the comparative regard they shew their women would induce such a belief.

Arreeamars—The Arreeamars to the south called Vailamars, often male Arrisens (Lords of the Hills) hold the chief place as to caste. They occupy the hilly tracts bordering on the inhabited parts, and are less migratory than the other tribes. The Hills are shared amongst them, each Family having a certain extent as its patrimony. To the spontaneous produce of their wild domain, they add such as they can collect in the more mountainous and distant parts, a rude and lazy culture ekes out a scanty subsistence. Their houses are picturesquely scattered (sometimes in little knots, but usually distant from each other) over the Hills, are sheltered by some projecting crag, and embowered in plantain trees, which intermingled with a few areka and jack are also seen strewn along its vallies. The Hill and in some measure its inhabitants are often the property of a Pagoda or Junmeecars, they are subject to some

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slight tax, and are bound to aid the capture of elephants, for which they are remunerated. Active in clearing lands, they are employed in this way by the inhabitants of the plain, but naturally supine, necessity alone impels them to industry.

Oorallays—The distinguishing characteristics of the Arreeamars, are less remarkable than the Oorallays, who wander over the Thodhuwullay Hills. Their numbers are very limited, some belong to the Circar, and are under a Kyeaulchy or manager, who rarely fails to make the most of his authority over them. They were (as also some other of the hill tribes) at a remote date, the particular property of the Alwanchayree Tumbracul. Their singular aversion to the buffalo, whose approach they anxiously avoid, is supposed to mark their purity as a caste, which ranks with the Moodavenmars. They are expert in the use of the bow, and particularly attached to their dogs, who share all their toils; they pay much respect to parental authority, are timid, mild, but even less amicable than the other tribes.

Prœdial Slaves—Prœdial slavery* is common to a considerable portion of the Western Coast, but its extent throughout this principality is comparatively greater, and the prejudices of the people renders the degradation it entails more complete. Those subject to prœdial bondage are known under the general term of Sherramukkul (children of slavery) their name is connected with every thing revolting, shunned as if infected with the plague, the higher classes view their presence with a mixture of alarm and indignation; and even towns and markets would be considered as defiled by their approach. The Sherramukkul are attached to the Glebe, but real property in absolute market value not much above the cattle united with them in the same bondage, and greatly below them in estimation. But though a slavery deserving commiseration, it is by no means the most rigid form of that wretched state, they are treated with a capricious indifference or rigour, much of this arises from the prejudices of the Nairs, the Christians have no such excuse, but though divided in caste, they agree in oppression. Personal chastisement is not often inflicted, but they experience little sympathy. In sickness they are wholly left to nature, perhaps dismissed to poverty, and in age often abandoned.

Manumission is rarely practised, or even desired, indeed as a Polayen never possesses property of any kind, his freedom could only be productive of starvation; or a change of servitude, which occurs

* It is nearly unknown in Nunjaynaad.

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when he is presented to a temple in compliance with some superstitious vow. The Sherramukkuls are held by various tenures, and the reluctance of their masters finally to dispose of them is so great, that the most pressing necessity can alone induce them to it. They are most frequently mortgaged or held in Punnium, that is the owner receives the full value, but retains the power of recalling the purchase, tenures but little adapted to improve the situation of the slave, whose services being received as equivalent to the interest of the debt, holds out an inducement to urge his labours, and diminish his comforts: they are not sold out of the country.* A very considerable number of Prœdial slaves belong to Government, to whom they escheat as their property on the failure of heirs; they are partly employed on Circar lands, partly rented out to the Ryots. A male being rated at about eight purrahs of paddy annually, (not quite two Rupees) the female less than this amount. If however hired from a Junmee (owner) the demand would be much greater. The value of a Polayen varies from six to ten Pagodas, that of a female may reach perhaps to twelve, but (amongst some of the caste of Sherramukkul) they are very rarely subject to sale.

In earlier times the murder of a slave was scarcely considered as a crime, the deed of transfer goes to say, "you may sell or kill him or her," the latter privilege has now of course ceased. The Sherramukkuls are only employed in agriculture, they live in hovels situated on the banks of the fields, or nestle on the trees along their borders to watch the crop after the toils of the day, and are discouraged from erecting better accommodation, under the idea, that if more comfortable, they would be less disposed to move as the culture required. Their labours are repaid (if such can be called compensation) in grain. Three measures of paddy to a man, two to a woman, and one to a child, is their daily pittance, this is not regularly given being reduced to half on days when they do not work, and withheld entirely on symptoms of refractoriness. Harvest is a period of comparative plenty, but their meagre squalid appearance betrays the insufficiency of their diet, and the extreme hardships to which both sexes are equally doomed. They have no idea beyond their occupations, are never guilty of violence to their masters, are said to be obedient perhaps from the sluggish apathy of their character, which renders them unmindful of their lot. The external distinctions of the Prœdial slaves are subject to great varieties, they are sometimes remarkable for an extreme darkness of complexion,

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* *Of Travancore. Ed.*

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whose jetty hue (which cannot be the effect of exposure,) approaches that of an African, but they are invariably stamped with the Hindu features, nor bear any traces of a distinct race. The bark (spatha) of the areka often furnishes their whole clothing, which at best never exceeds a bit of cloth, sufficient for the purpose of decency. The hair allowed to grow wild, forms in time an immense mass, whose impurities cannot be imagined without shrinking. They are divided into several distinct classes, marked by some peculiarities, the

Vaituwans—Vaituwans (literally hunters) or Konakens are ranked high, and prized for their superior fidelity and tractability. They are expert boatmen, and often employed in the manufacture of salt; their women as an article of sale are not much valued, the children of this class being the property of the father's master.

Polayens—The Polayens constitute much the largest number of the Prœdial servants, they are split into three classes, Vulluva, Kunnaka, Moonry Polayen, each baser than the other. Husband and wife sometime serve different persons, but more frequently the same. The females of this class are given in usufruct, scarcely ever in complete possession; the eldest male child belongs to the master of the father, the rest of the family remain with the mother while young, but being the property of her owner revert to him when of an age to be useful, and she follows in the event of her becoming a widow.

Parriars—The Parriars also form a very considerable number of the slaves, the cast is divided into Perroom Parriar N. of Kodungaloor, Mounay Parriar S. of that place, they are inferior to those of the other Coast, and reckoned so very vile, that their contact would entail the most alarming contamination. Their taste for carrion has doubtless caused this prejudice, which goes so far as to suppose they inhale a fetid odour. The death of a cow or bullock is with the Parriars the season of jubilee, never stopping to enquire its cause, they indulge the horror of the higher classes in the feast it affords. Unlike some of the other caste of Sherramukkuls they do not connect themselves with their kindred, but as with the Vaituwans, the children are the property of the father's master. They are ingenious in wicker work, and are capable of great labour, but in point of value and character are greatly below the Polayens. They pretend to be great necromancers, and their masters respect their powers or fear their spells;

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nor shall we regret the credulity, that puts at least one check on the caprice of their owners.

Vaiduns and Oolandurs—The Vaiduns and Oolandurs are the least domesticated of the Prœdial slaves, they are employed in cutting timber, making fences, guarding crops, declining or being prohibited from giving any aid in the other rural labours. The former claims a superiority but the existence and subsistence of both is indescribably miserable. They are not insensible to the vanity of ornaments, the neck being hung round with shells, but they use no cloth, a verdant fringe of leaves strung round the loins being their only covering. A dark complexion, restless glance, and exuberance of hair, gives them a wild appearance: but they are extremely gentle, and so timid, that on the lowest sound of approach, the shock headed savage flies into the woods. Though reduced to a low state of debasement, they are yet superior to the

Naiadees—Naiadees who in the opinion of all are at the very last step of vileness. This wretched race is only found in the northern parts of Cochin, they are banished the villages, and live on the low hills near the cultivated lands—a bush or rock being their only shelter. The Naiadees present a state of society not seen in any other parts of India; wild amidst civilized inhabitants, starving amongst cultivation, nearly naked; they wander about in search of a few roots, but depend more on charity, which the traveller is surprised at their clamorous impetuosity in soliciting, ascending the little slopes that overlook the village or road. Whatever charity they receive is placed on the ground near where they stand, but on observing their petitions are heard they retire from the spot, that they may not defile by their presence those coming to their relief.

(*To be continued.*)

An Historical account of the Christians on the Malabar Coast, by the Venerable Archdeacon T. Robinson A. M. (in three parts.)

Part 1st.

THEIR EARLY HISTORY.

(Read at a Meeting of the M. L. S. & A. R. A. S. held on the 8th August, 1833.)

The churches of the christians of St. Thomas in the countries of Travancore and Cochin, have always formed one of the most interesting objects of enquiry to the general scholar as well as to the

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ecclesiastical student. Their venerable antiquity, their preservation for so many centuries in the midst of Paganism, the respectability of their character, and above all the strong, and independant support, which their copies of the sacred volume have given to the purity of the canon of Scripture as preserved in the Western churches, all conspire to attract and fix our attention to their past history and their present state.

In attempting to put together the materials that are scattered through different writers on these subjects, I shall observe the following order. *First*, to trace from the monuments of antiquity that remain to us, their ancient History. *Secondly*, their ecclesiastical concerns from the arrival of the Portuguese amongst them to the present time; and *Thirdly*, their general character, customs and political condition.

I must crave the indulgence of the Society if in the first branch of our enquiry (which from the perplexity and obscurity of the subject is all that the present paper can embrace) there is less of general interest, and less of absolute certainty than the following stages will supply. The authorities I have followed are *Apemanin* Biblia Orientalis, Paul in India Christiana Orientalis, La Croze Christianisme des Indes, and Geddes' History of the Church of Malabar.

The strong and universal tradition of antiquity assigns India as a part of the province of the Apostle St. Thomas.* The fact that he preached the Gospel on these shores where we are now assembled, and that this was the scene of his martyrdom is attested by ecclesiastical records of high antiquity both in the Latin, the Greek and Syrian churches. The town of *Maliapoor* is mentioned as the place of his mission and "*The Hill of Calamina*" is made illustrious by his crown of martyrdom: Jerome, Gregory, and Nicephorus mention this as the commonly received opinion of the church in their time i. e. in the 5th century. The Roman Martyrology says expressly that the Apostle suffered martyrdom in India. *Cyrus (i. e. St. Thomas) Reliquiæ primo ad urban Edessam deinde Othoman translatæ sunt.* Now the ancient Nestorians, and at this day the Catholic christians celebrate the removal of his remains annually on the 1st day of July and call it *Dohorana*. *Calamina*, where Sophronius also, as well as the Roman Martyrology places his martyrdom, is not now found either in India or in any other part of the world. The celebrated Father Paulin, (or as he is more usually called Fra Bortolomeo) conjectures that the word might

* *Assemar* Biblia Orientalis IV. p. 205, &c. and 435.

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have been corrupted from *Calmelmina, e saxo,* that he was thrust through by a spear from a rock; and so may mean the rock in the neighbourhood of Maliapoor now called *Monte pequeno,* or the little mount. That spot is still a place of pilgrimage to Syrians, Arabs and Armenians, (both Roman catholic and protestant), and even the heathens keep a lamp burning there from veneration to his name. A tradition so constant among people so distant from each other, and so opposite in religious faith, is not lightly to be rejected; and may go far to fix the meaning of the unknown word in the two most ancient records.

We know from Eusebius that Pantænus (who flourished A. D. 180) found the gospel of St. Matthew in Malabar. Some mission therefore had taken place at a time closely bordering on the apostolic age.

In the acts of the council of Nice (in the opening of the IV century) we find Johannes, bishop of India, Maxima and Persia, enumerated among the bishops of the council; and the testimony of *Cosmas Indicopleustes* is express. *In Taprobana insula ad interiorem Indiam, ubi Indicum pelagus extat, Ecclesia christianorum habetur, ubi clerici et fideles reperiuntur*; *an ulterius etiam ignoro. Similiter in mala ut vocant, (unde Malabar,) ubi gignitur piper. In Calliana* vero (sic nuncupant) episcopus est, in Perside ordinari solitus.*

The church of *Maliapoor,* from the death of the Apostle, languished till the year 1606, when Paul V. erected it into a see. The whole coast of Coromandel from Negapatam northward, the kingdom of Orissa, Bengal, and Pegu, were subjected to the bishop of St. Thomé. The patronage had been given by Paul III. to the king of Portugal in the year 1534.

The cleft in the rock which is now shewn as the tomb of the Apostle was opened by Joseph Pinheiro, bishop of St. Thomé A. D. 1729; and the childish fables and pretended miracles that have been industriously propagated to increase the reputation of their monastery have thrown a shade of unmerited suspicion on the venerable tradition of antiquity and the express testimony of many ancient writers.

At the close of the ninth century his shrine was devoutly visited by the ambassadors of the illustrious Alfred, who in the midst of his vast projects of discovery and trade, was too wise to reject the voice of all consentient witnesses. The chief of his embassy was the first English bishop in India.†

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* Quilon. † Vide Gibbon.

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I am aware that Mr. Tillemont, La Croze, and others maintain that it was not the Apostle, but *Thomas* the disciple of *Manes*, A. D. 277, that first preached christianity in India. But there are two strong objections to this opinion. First, the constant tradition, which, as we have seen is entirely for the Apostle; and secondly, because *Epiphanius*, in his history of *Manes* and his disciples, says that he fled not into India, but into *Judæa*, where he was taken by the king of Persia.* We are told also by Epiphanius that Manes on his arrival at *Cashar*, found their bishops, presbyters, and deacons, with a large body of orthodox christians, who banished him for his heresy. This establishment surely implies the introduction of christianity at a much earlier period, i. e. at a date much anterior to the year 277.

But to pass from this, the scene of the Apostle's ministry, to the opposite coast, the immediate object of our present enquiry. The most credible and constant tradition, among Arabs, heathens and christians, is that after his death, his disciples, being driven hence by persecution, crossed the Peninsula, to the opposite coast of Malabar, and took refuge in the hills of Travancore, where they found other christians, converts of the Apostle on his first landing on that coast before he visited Madras.

The heathen princes conferred great privileges on the christians thus assembled in their territories, and especially SERUN PERUMAL, the *Samorin* or king of Malabar and the founder of Calicut, in the *ninth* century.† This was the prince who divided the provinces of his empire amongst his relations and favourites, and so introduced that multitude of petty principalities into which Malabar has been ever since divided. In virtue of the privileges granted them by Perumal, the christians ranked amongst the nobles of the country, and at one period took precedence of the Nairs. The most considerable of these is one which still continues, and the heathen Government recognizes the metropolitan whom they elect as their temporal as well as spiritual chief.

These privileges, together with others which the king of Cranganore afterwards granted to Mar Thomas, were written in the language of the country on plates of brass, and were preserved till the arrival of the Portuguese in India. A bishop of Angamale, called Mar Yacoob, from fear of losing them, entrusted them to the Portuguese commissioners at Cochin on their first establishment there;

* Epiphan. 1. 629.

† According to Scaliger A. D. 907, but according to Mr. Vicher A. D. 825.

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and the commissioners leaving them carelessly exposed in the public godowns, they were unfortunately lost; but the rights are still continued by prescription.

The *Mar Thomas*, or *Thomas Cana*, whom I have just mentioned was an Armenian merchant of great wealth and noble family, who came and settled in Travancore, probably about the fifth century, although Gouvea the Portuguese historian, makes him the contemporary of Perumal. He carried on an extensive traffic in the produce of the country and built two houses one in the south in the kingdom of Cranganore, the other in the north, probably at Angamale or the immediate neighbourhood. In the former of these his wife resided, and in the latter, a christian slave with whom he lived. By each of these he had children, and at hi death he left to his legitimate offspring his lands and possessions in the south, and to his natural children all his property in the north. The present christians in Travancore trace their descent from this Mar Thomas, and of course those of the south are the more noble. So proud are they of this distinction, that they do not intermarry with others or admit them to communion in their churches, nor use the ministry of their priests.

Some time after the foundation of Quilon, from which commences the common epoch of Malabar;—i e. about A. D. 822—two Syrian ecclesiastics arrived on that coast from Babylon, *Mar Shapoor* and *Mar Firoze*. They landed at Quilon, and the king, seeing the great reverence in which the christians held them, showed them great favour, and among other privileges empowered them to build churches wherever they pleased, and to baptize all that were desirous of embracing christianity. These privileges are still continued to them, and the plates of brass on which they were written in Canarese, Malayalim, Vizianagrum, and Tamul, were seen by Alexis de Menezes, the archbishop of Goa, in the year 1599.

These two ecclesiastics are enrolled by the christians of St. Thomas in the number of their saints, *Cadeeshe*: they are commemorated in their liturgy, and several churches were dedicated to their honor. Menezes, who from not finding their names in his Roman Martyrology concluded they were Nestorians, erased their names from the liturgies, and changed the titles of their churches

The christians by this long course of prosperity became so powerful that they threw off the yoke of the heathen princes, and elected a king of their own nation. The first who bore that title, "the King of theChristians of St. Thomas," was *Baliarte*. For some

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time they preserved their independence; until one of them, who according to the custom of the country had adopted the king of Diamper, died without issue, and the heathen king of Diamper succeeded peaceably to all his rights. After this, in consequence of a similar adoption, they passed under the sovereignty of the king of Cochin, to whom the greater part of them were subject on the arrival of the Portuguese in India.

Through the whole of this period, and to the present hour, they are firm in their allegiance to the see of Antioch, from which they profess to have received their ministry. Antioch, one of the four patriarchates into which the world was divided, embraced the whole of Asia, the East, and India, *κατνιχεν ἀπασαν την Ασιαν, και Ανατολην, αυτην τε την Ινδιαν.** The Catholicos † or archbishop of Persia was one of his suffragans; and India together with China was reckoned the XIII. or last diocese subject to the jurisdiction of Persia. In the opening of the 6th century the churches of Persia were entirely in the hands of the Nestorians, who had emigrated beyond the limits of the Roman empire on the triumph of their enemies; and it was probably early in that century that the christians of St. Thomas received the doctrines of the council of Ephesus with regard to the two natures of Christ. This faith they retained unshaken on the arrival of the Portuguese; nor could all the arts and persecutions of Menezes induce them to relinquish it. They were occasionally visited by Jacobite prelates; but without any change of their national creed before the 17th century. At what exact time they received the Monophysite doctrine, preached by Jacobus in the middle of the VI. century, is unknown, but it has so entirely supplanted the opposite heresy that there is not now the slightest trace of Nestorianism in their ritual or books, though they are still usually called the Nestorians of Malabar.

An opinion has sometime prevailed that these interesting churches are the descendants of emigrants from Assyria (or rather from Persia) during the persecutions of Justinian. This opinion chiefly rests on a vague assertion of Gibbon, who appears to have mistaken the original authority which he quotes of Cosmos Indicopleustes to which I have already alluded. There is no tradition among themselves of any such numerous emigration, though they look to the cradle of their religion, the see of Antioch, or Babylon with unbounded veneration. Nor is there, as far as I

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* Nilus Doxopatris apud Allatina. L. l. c. 9. 166.
† A title which first rose in the reign of Justinian.

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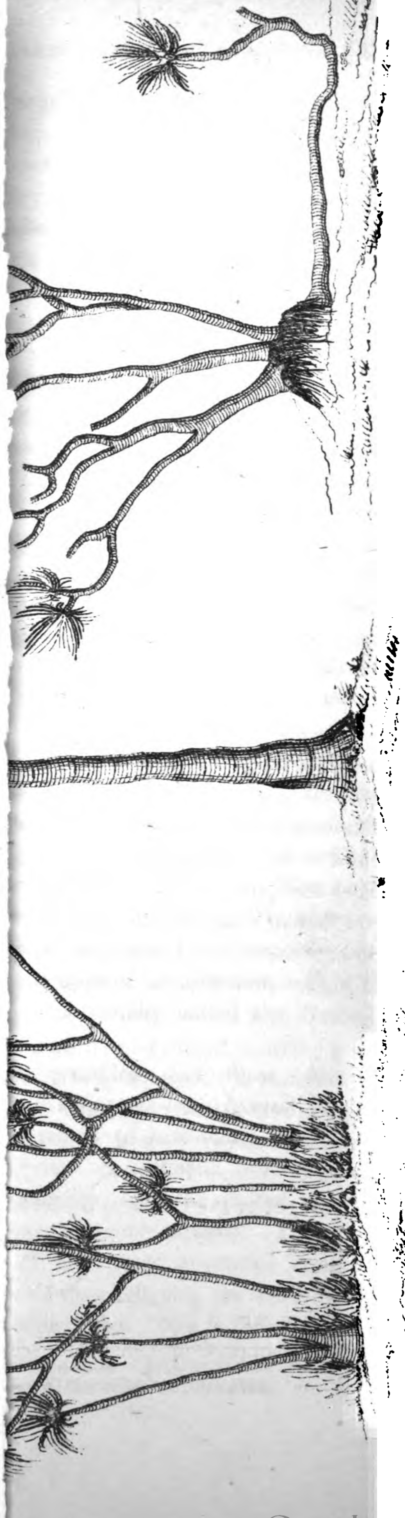

No. 2

No. 3

No. 1

can discover any thing in their persons, colour, or appearance, which marks a foreign origin.

I should abuse the patience of the Society if I were to add more to this brief and uninteresting sketch of their early history. The dimness of the few and scattered lights which remain to us leaves much to regret, and yet enables us to see enough to admire and reverence. A church that traces its descent without question from the III century, and with great show of reason from the very age of the Apostles, is in itself venerable. That they have preserved themselves with very slender means of intercourse with other churches pure from surrounding heathenism, may well be considered as a moral phenomenon ; and that they have continued in the midst of much error, to preserve unshaken their reverence for the Divine Oracles as the only source of truth and the only final appeal in controversy, while they give its due weight to tradition as an historical evidence, is one of the most singular features in a church so situated, and gives the brightest hope of their ultimate reformation.

(To be continued.)

II.—*The drawings from which the annexed prints have been taken, as well as the following account were furnished to the Madras Literary Society by Captain (now Lieut. Colonel) Bowler.*

(No. 1.)

Drawing of a cluster of very remarkable Palmyra Trees, growing in the cutchery compound at Masulipatam.

They are called by the Hindoos రామతాడు and also గొడ్డుతాడు In the former the name of the deity Ramah is prefixed merely to denote something curious, or remarkable ; and not on account of their being supposed to possess any peculiar virtue. The second name implies a barren tree.

They produce a kind of nut, in shape and colour perfectly resembling the fruit of the proper Palmyra, but it is of no use from being almost entirely a hard solid substance.

The leaves are very small, and the trees very slender, in comparison with the proper Palmyra.

The height of the tallest is 50 feet.

W. S. BOWLER.

(No. 2.)

This tree which is in a low jungle about 4 miles in a south westerly direction from Chicacole, seems to be of precisely the same species as those in the cutchery compound at Masulipatam, a

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drawing, and description of which I forwarded to the Secretary in the early part of the year 1824.

By the inhabitants of the neighbouring hamlet of Kongaram, it is called Ko-dady, a Teloogoo compound term for an useless Palmyra. It is supposed to be 100 years old. It differs in every respect from the common Palmyra. The stems are slender, and the fruit is a hard solid substance, which after being steeped in water for a few days, is well beaten, and used by the natives as brushes to white wash their houses. The leaves are very small and narrow, and the stalk is denticulated with many sharp curved thorns, from which circumstance the natives say it resembles the back bone of a shark, and on this account the people of the adjacent villages carry it in their hand when travelling through the jungles as a weapon of defence, and also during some of their festivals. The Sunasies also, whenever they can procure them, carry such stalks in their hand, and impose upon the ignorant natives by attributing to them many surprising virtues, and pretending they cut them from a curious tree which grows in a large forest at an incalculable distance.

The inhabitants of Kongaram, and the neighbouring hamlets, look upon this tree as the guardian of their jungle, and hold it in some degree of veneration conceiving it has, as I am told its Sanscrit name* Kulpavroochum, implies, the power of fulfilling the desires and wishes of mankind, at least such as from pureness of heart and morals, have faith in its supposed virtues.

The inhabitants of the neighbouring villages, go annually, at the fall of the leaf, in procession to this tree, and the ceremony terminates in the sacrifice of chickens, pigs, &c.

This tree was much injured and lost many of its heads in the violent storm of 1812.

Chicacole: W. S. BOWLER, Major
1*st February*, 1826. Supt. of Roads, N. D.

(No. 3.)

The Palmyra tree, from which this drawing was taken, is on the bank of a tank at Neddoomole, amongst many others of the usual species. It is of the natural size, and each head produces the fruit in a perfect state. It is called చిల్లతాడు

W. S. BOWLER.

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* **A holy tree in the gardens of Indra. It is said in the Pooranas to have been found in the Ocean when Crishna churned it, and that it was given to Indra telling him that it would grant the wishes of all beings.**

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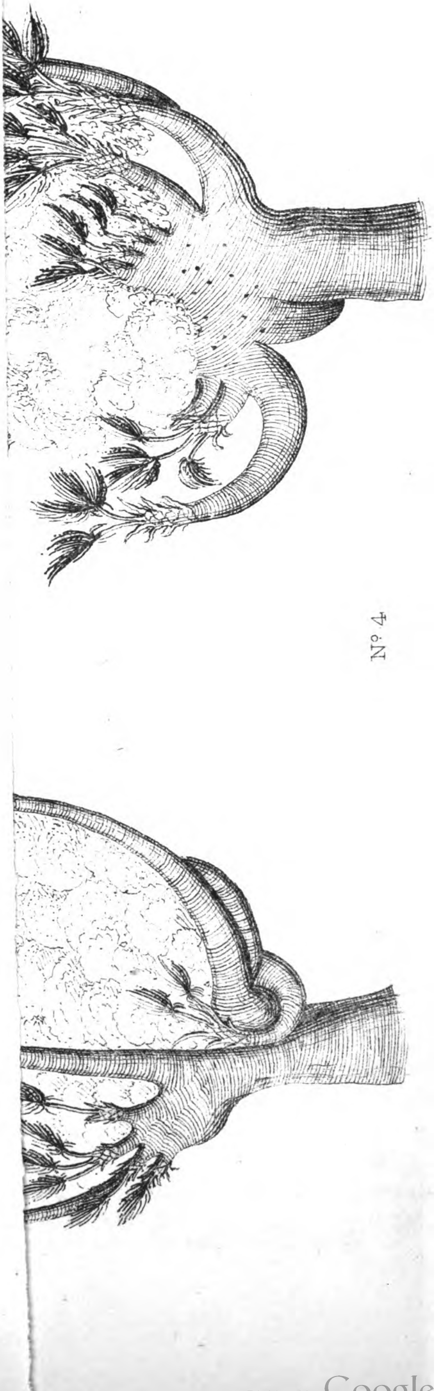

N° 4

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(No. 4.)

This very singular Palmyra I discovered accidentally in the midst of a thick boundary fence of common Palmyra trees, belonging to the village of Dhirmaram, near the sea coast, and about 5½ miles south easterly from Chicacole

The most respectable inhabitants of the village say that this tree is about 25 years old. It is considered by them a barren tree, from not having yet produced fruit although they affirm that another tree precisely of this description in the village of Darsam about 15 miles distant, bears fruit which is eatable. The leaves are like those of the common Palmyras, and are periodically cut from the large stems, and used for covering the roofs of houses.

The natives do not perform any ceremony before this tree, although from its singular construction, and the central cluster containing at least one hundred small heads, they hold it sacred, conceiving that it must contain some holy hidden mystery.

Excepting in its many heads it differs in no respect from the common Palmyra.

The height of the tallest stem is 18 feet.

The within drawings give the appearance of the tree on each side of the fence.

CHICACOLE, W. S. BOWLER, Major
1*st February*, 1826. Supt. of Roads N. D.

III.—*An account of the Hindoo Holy days and Festivals, by Venket Row, late Interpreter to the Officer Commanding Vellore, with considerable alterations and additions by the Editor.*

(Read at a meeting of the M. L. S. & A. R. A. S. held on the 21st Feb. 1833.)

It is necessary to premise that the Teloogoo year consists of a certain number of lunar months reckoned from new moon to new moon, and the Tamil year, of solar months, containing as many days and parts of days as the sun stays in each sign of the zodiac. To prevent confusion, the solar festivals and the feasts governed by the lunar Calendar have been treated of in the following pages under distinct heads.

Feasts governed by the lunar Calendar.

1. *Oogady Pundaga*—The first day of the increasing moon in the lunar month Chaitra is the commencement of the Teloogoo year. The Teloogoo people celebrate its return as a holiday by offering, (after having anointed themselves and bathed) the flower of

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the margosa tree (melia azadirachta) with tamarind juice and sugar to their house-hold deities and afterwards partaking of the same themselves. Alms are distributed among the poor and during the day they divert and regale themselves in the hope of being happy through the year, as they believe their happiness during the year depends on the manner in which they begin it.

2. *Stree Rama Navamy*—The ninth day of the increasing moon of the same month *Chaitra*, is the anniversary of the incarnation of Vishnoo in the form of Rama. This festival lasts nine days, and is celebrated with great pomp in the temples of Vishnoo. Each evening the God goes in procession through the streets, on different vehicles, and on the return of the procession, they expose him in a muntapam, or stone choultry of the temple, to receive the adorations and offerings of the people.

3. *Chittera Pourname*—The day of full moon in the month Chaitra is celebrated by making offerings of boiled rice, milk and jaggery in honor of Chitragoopta the Secretary of Yama who records the vices and virtues of mankind. On this occasion the Hindoos observe the religious fast or okaproddoo as it is called by the Telingas " eating but one meal."

4. *Narasimhajagenti*—The fourteenth day of the second lunar month Vaisaca, is the anniversary of Vishnoo's avatara or the descent of that deity, in the shape of a man with the head and claws of a lion with a view to the destruction of the giant Heranneacasap. The Hindoos pray to the deity and distribute among the bramins, water in which jaggery has been dissolved, together with bits of cocoanut and beetlenuts. The devout bramins fast on this day. This feast is likewise observed in the temples of Vishnoo. It lasts nine days and processions are made provided any person will be at the expense.

5. *Vyasa Pavernami*—The day of full moon in the 4th lunar month Ashadha, is kept in commemoration of Vyasa, the celebrated saint and founder of the védanta philosophy.

6. *Nagachouty*—The 4th day of the increasing moon in the fifth lunar month shrávana is dedicated to the performance of nagapooja which consists in pouring milk into a snake's hole and putting flowers and perfumes upon it. Females are generally charged with this ceremony.

7. *Garooda Punchami*—The 5th day of the same lunar month is also dedicated to the worship of the serpent of Vishnoo.

8. *Varu Lucshmi Vrúttum*—This holy day is always kept on the Friday which precedes the full moon of the same lunar month

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and is devoted to the worship of Lutchmy or the Goddess of prosperity. The Hindoos who may have once kept it, contract an obligation to celebrate it perpetually both themselves and their descendants. The women on this occasion tie a thread of yellow cotton round the right wrist.

9. *Oopacurmam*—This feast is observed by the bramins on the day when the moon is in the constellation Shravana in the month of Shravana by beginning to read the Rig-veda. The young unmarried bramins have their heads shaved and all who wear the sacerdotal thread bathe themselves in the tanks or rivers and there throw off their old strings and take new ones. This day is also dedicated to ask pardon of God, for the sins committed, during the course of the year.

10. *Crishnajayenty*—The eighth day of the decreasing moon of the lunar month Shravana, is the anniversary of Vishnoo's incarnation in the form of Crishna—and is celebrated both in the houses of the Hindoos and also in the Pagodas of Vishnoo. The Hindoos form various figures out of clay representing Crishna and his family and worship them during the night when they observe a fast. In the Pagodas, the festival is celebrated for nine days during which the image of Vishnoo, is carried in procession through the streets. This festival is particularly observed by the shepherds in commemoration of Chrishna's having been brought up amongst them. They erect porches or pandals of cocoanut leaves and of cloth at the doors of the temples, and in some of the cross-ways. In the middle of these pandals a cocoanut is hung, in which there is a piece of money. This cocoanut hangs by a string, one end of which is inside the pandal, that it may be drawn up and down at pleasure. The cast of shepherds, or at least all those who still adhere to ancient customs, walk in procession through the streets, and when they come to these porches, to entitle them to pass them they are obliged to break the cocoanut with sticks, which those within endeavour to prevent by pulling it up and down, and by throwing water in their faces. This water is mixed with turmerick powder.

11. *Venayaca Chaturthe*—On the fourth day of the increasing moon of the 6th month *Bhadrapada*, is the festival of Venayaca Chaturthe, which is celebrated in the houses of Hindoos as well as in the Pagodas of Seevah. Venayaca is the deity of wisdom, and remover of obstacles, whence in the commencement of all undertakings, the opening of all compositions, &c., he receives the reverential homage of the Hindoos. He is represented as a

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short fat man, with the head of an elephant. The Hindoos observe the demi fast and for the celebration of the festival purchase an image of *Venayaca* made of dried earth (some times painted) which they carry home to perform the ordinary ceremonies to it. The next day, or any other day this idol is carried out of the city or village and flung into a tank or well. Those who chuse to be at the expence, put the image upon a pompous chariot accompanied by dancing girls and musicians, others have it carried on a man's head. The Hindoos try their best to avoid seeing the moon that night under a belief that in the event of doing so they will be charged with some false accusation during the year, because Crishna who neglected this rule was falsely accused in his childhood of having stolen a golden gem from *Prassana*.

12. *Rishe Punchami*—The fifth day of the increasing moon of the same month is the festival in which the memory of the seven great saints is commemorated. Women of an advanced age are in general charged with the performance of the ceremony, which consists in ornamenting and worshipping seven stones intended to represent the sages. They are obliged to fast the whole day and night on the occasion.

13. *Ananta vrutum*—This festival occurs on the 14th day of the increasing moon in the same month. It is celebrated in honor of Vishnoo * under the epithet of *Ananta* or infinite. He is likewise known by the name of Anantapudmanabhaswamy. Those who keep it take but one meal and tie a red silk string on the right arm. The only vessel they use on this occasion is of copper plaistered all round with lime, and covered with a cocoanut, on which they put some mango leaves and flowers. This festival, as well as that of Varalutchmee vratum, in the month of Shravana, and of Kadaury vratum in Aswirja is not obligatory: but having once kept it, the celebration always must be continued. Even the posterity of those who have observed it are subject to this law, till they get released from their tacit vow. It is at Anantasanum alone or Tervendrum in the Cochin country on the malabar coast (where this divinity has his most celebrated temple) that a release from the vow to observe this festival can be obtained; for this effect ablutions and purifications are repeated for several days, and besides it costs a large sum of money.

* According to the Pudma Pooranum, this festival is celebrated in honor of Vishnoo alone, but in the Hurivumsa of the Bharatum it is said to be held in honor of Vishnoo, Bramah, and Seevah, who are worshipped under the figure of a serpent, with a thousand heads. Ed:

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14. *Mahalayaputcha*—The holy days of Mahalayaputcha which last for 15 days commence on the 1st day of the decreasing moon of the 6th lunar month Bhadrapada. It is celebrated only in the houses, in honor of deceased ancestors, while it lasts they make the Turpanum * for them, and give alms to the bramins either in money, clothes, (linen) or even in rice and vegetables &c.

15. *Navaratri* or *Dusserah*—On the first day of the increasing moon of the 7th month Aswija this grand festival commences and lasts nine days. After the Pongall, it is the most celebrated festival. Processions and public ceremonies are made in the pagodas while it lasts. The school boys properly dressed, walk through the streets, accompanied by their masters. They stop at the houses of great men, and sing verses composed in their praise, and also play *Kolatums* † with small painted sticks; where they get money to amuse themselves, and their masters also get great presents. It is at this time that the grand festival at the Terooputy pagoda is celebrated.

16. *Saraswati Poojah*—This festival which is in fact a part of the foregoing is observed on the day when the moon is in the constellation *Moola.* It is on this day that the Auyooda Pooja is performed, which means the ceremony of arms or instruments. Each person collects all the arms he has, or the instruments of his trade and exposes them unsheathed in a chamber well cleaned; and all his books and musical instruments. The officiating bramin comes to perform the ceremonies. He takes water in a small cup and first presents it to the Gods; then with mango leaves, he sprinkles all the vehicles and animals belonging to the house, and even the books and vessels, if the owner of the house has any. The eight first days of the Navaratri are consecrated to Siva and Vishnoo; but the ninth day is devoted to the honor of the three Goddesses, Parvatee, ‡ Lutchmee, ¶ and Saraswatee. § The first is represented by the emblem of arms, as the destructive Goddess; the second by the carriages, boats, and animals, as the Goddess of riches, and the third by the books and musical instruments, as Goddess of languages and the fine arts. The Auyooda Pooja is a feast so sacred, that if a Hindoo is attacked on the day of its celebration, he will not take arms to defend himself. It is related that the general of

* A religious rite, presenting water to the manes of the deceased. *Wilson*

† A kind of play with small pieces of sticks, in which dancing girls or school boys, by moving in different directions, plait into one rope separate strings held in one hand, while they keep time, by beating the sticks held in the other, against each other. *Campbell.*

‡ Wife of Seeva. ¶ Goddess of riches. § Goddess of learning.

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the soobah of the Deckan, who beseiged Gingee, chose this day for the assault, being persuaded the beseiged would not defend themselves and that he actually entered the place without meeting with the least resistance.

17. *Mahanavamy*—The 9th day of the same fortnight on the same month is set apart for devotion, bathing and reading certain muntras.

18. *Vejaya Desemi*—On the tenth day of the increasing moon in the same month is the festival of Vejaya Desemi. This day is set apart for amusement, and the arms which had been exposed the preceding evening, are locked up. In the afternoon, the Gods are carried out of the city or village in procession to hunt, accompanied by dancing girls and musicians, and fireworks are let off on the occasion if the feast be in the evening. On this evening likewise the Hindoos worship the Sumi tree, (mimosa suma), which they believe is efficacious in expiating their sins and in destroying their enemies.

19. *Naraca Chaturdusi Deepauvelly*—The 14th day of the decreasing moon in the same month is celebrated as a festival. It is kept as a day of rejoicing in commemoration of the death of a giant named Naracasoor, whom Vishnoo exterminated on account of the mischief he had done to mankind. The ceremonies performed on the occasion commence with the morning twilight when the Hindoos anoint their heads with oil and bathe. The festival is said to have been instituted by Vishnoo himself and that he declared that all who make this ablution, shall have the same merit as if they had washed themselves in the ganges. The rest of the day is passed in diversion. It is one of the greatest festivals held in Guzerat, and in the Mahratta country.

20. *Cadary Goury Vrutum*—This feast takes place at the time of the new moon of the month Asweja and is one of the three great feasts which after having been once celebrated, obliges the person to continue the celebration every year. It is commemorated in honor of the goddess Parvatee. Those who keep it observe the demi fast and tie a yellow string on their right arm.

21. *Scanda shusti*—On the first day of the increasing moon in the eighth month *Cartica* this feast commences and lasts for seven days. It is celebrated in commemoration of the defeat of Soora Pudma, a mighty giant whom the God Soobramanya (the second son of Seevah) vanquished after a combat of six days. The seventh day, the image of the deity is carried in procession and

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some places they give the representation of the battle in which this giant perished. The figures are made of dried earth and armed Indians represent his troops.

22. *Naga Chouty*--The fourth day of the increasing moon in the month of Cartica is set apart for the worship of the cobra capella snake by pouring milk into its hole.

23. *Radha Suptamy*—The seventh day of the increasing moon in the eleventh lunar month *Magha,* is dedicated to the celebration of this festival on which the Hindoos offer their Turpanams to the spirits of deceased ancestors and homage is paid to the sun by offering rice, milk and sugar boiled together to him.

24. *Mahasewaratry*—The 14th day of the decreasing moon in the same lunar month *Magha* is set apart for this festival which is held in great esteem by the followers of Seevah. They fast during the day and pass the night in reading the Pooranas.

25. *Camadahanum*—Commonly called the Holy. The fifteenth day or the full of the moon of the 12th month Phalgoona is dedicated to the celebration of this festival which is held in commemoration of Madana, the god of love having been reduced to ashes by the eye of Seevah for his having dared to disturb his devotions and render him enamoured of Parvatee. He was however restored to life again by that deity. All classes of Hindoos but especially Mahratta bramins, Mahrattas, and Rajpoots sport on this day in honor of the God of love whose picture is carried about with great state and afterwards burnt. The ceremonies observed on the occasion have been compared to the Saturnalia of the Romans, for all classes of society are confounded while it lasts.

Solar or Tamil Festivals.

1. *Versharumbum or Vurshaporapoo*—The eleventh of April, the first day of the month Chitry, when the sun enters Aries is the first day of the tamil year. It is kept as a festival by sacrificing to the spirits of deceased ancestors and giving alms to the poor and to the bramins. A good work performed on this day is considered to be worth a hundred done at any other time.

2. *Dechanayana Poonyacalum*—The first day of the 4th solar month Audy or July-August when the sun enters Cancer is set apart for religious observances such as the Turpanum &c.

3. *Audy Poorum*—On the day in the month Audy when the moon is in the constellation *Poorum* the festival of Audy poorum is

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celebrated in the Pagodas of Seevah, the destroyer, in honor of the goddess Parvatee whose image they carry in procession in a chariot

4. *Audy Pundaga*—This festival takes place in the latter end of the same month. A day of recreation and entertainment on which the Hindoos feast on boiled cocoanuts.

5. *Awany Moolum*—On the day when the moon is in the constellation *Moolum* in the 5th month Awany (August-September) is the feast of Awany Moolum, which is celebrated in the temples of Seevah, in commemoration of seveial miracles said to have been performed by that deity.

6. *Cartica Deepum*—On the day, on which the moon is in the constellation Critica in the 8th month Cartica or November-December, is the festival of Aroonachala Deepum. It is kept with particular state at Trinomalee, where a great lamp is kept burning and whither pilgrims flock from all parts of the coast. The temple at Trinomalee is built at the foot of a sacred mountain, in honor of Seevah. Tradition runs that this deity descended in a column of fire to put an end to a dispute about precedence, which had arisen between Vishnoo and Bramah. Seevah, to perpetuate the memory of this event, changed the burning column, into a mountain, and commanded his followers to worship it; and it is on account of its pristine state, that during three days a great fire or lamp is lighted on the mountain's top. The lamp, which is in a large stone cauldron is fed with butter or ghee and camphire, which the people send from all parts: the match is composed of pieces of linen of several cubits length. The bramins take great care to collect the remains of this lamp, which they present to their benefactors, who every day mark their forehead with it. It is in imitation of this sacred lamp, that the worshippers of Seevah make in their houses a large cake of rice flour, kneaded with water. They make a hole in the middle, which they fill with butter or ghee, and light a small match; they then worship this fire, and fast the whole day; and after six o'clock at night they eat the cake.

7. *Vishnoo Deepum*—The worshippers of Vishnoo, have a grand festival on the same day, which is called Vishnoo Deepum. It differs from the other only in the object; so that the two sects celebrate their festivals together; the streets and houses are illuminated, and the Gods carried in procession. The worshippers of Vishnoo say, that it was on the day of the full moon in this month,

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that Vishnoo took the form of a bramin dwarf known by the name of Vamanavatarum and confined the powerful giant Mahabelee in the subterraneous regions, that this giant, while he governed, being very fond of illuminations, to gratify himself furnished each house with a certain measure of oil, and that in going to the subterraneous region he prayed Vishnoo that he would have the goodness to continue the custom he had established on earth. The God promised to grant his request, and at the same time permitted him to return to earth every year, on that day, that he might himself be an eye-witness how faithfully the promise he had made was kept. It is on this account that the illumination is made, and that children holding fire in their hands divert themselves in the streets with crying out Mahabeleo.

8. *Moocoote Yacadesi*—On the 11th day of the increasing moon in the 9th solar month Margaly, or December-January, a general fast is observed in honor of Vishnoo and kept all the day and night. This is the day of the great festival of the Vishnoo Pagoda at streerungum near Trichinopoly. The festival is also solemnized in every Vishnoo Pagoda.

9. *Auroodra Durasanum*—On the day of the full moon when the moon is in the constellation *Auroodra* in the same month is the festival of Margaly Teroomunjanum which is celebrated in the Pagodas of Seevah, and particularly at Chellumbrum, where this deity is worshipped under the name of *Subhaputty*.

10. *Ootta Rayana* } *Poonyacalum, or* } *Pungall* } On the 1st day of the 10th solar month Tye, or January-February when the sun enters Capricornus is the grand festival of the Pungall, which lasts three days. The ceremony consists in boiling rice with milk, in order that the parties may draw auguries from the milk boiling. As soon as the first ebullition is perceived, the women and children cry out Pungall, which means, it boils. This ceremony is performed in the house, and the place appropriated for the purpose must be first purified with cow-dung. They make a stone, on which they dress the rice, and which they first present to the Gods; and then all the people in the house must partake of it. The second day the festival is called Mauttoo Pungall, or the Pungall of cows. They paint the horns of their horned cattle, cover them with flowers and then make them run about the streets, and lastly make Pungall for them at home. In the evening the image of the God is carried in procession out of the town. The idol is

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placed on a wooden horse, whose forefeet are raised as if he was galloping and his hind feet fixed on a wooden stand, carried by several men who in their march imitate the rearing and lashing of a horse. The idol holds a lance in his hand and seems to be going a hunting. On the same day also the bramins, cast lots to know what will happen in the year following. The animals and grain, on which the lots fall, will, as they say, be very scarce; if they fall on oxen and paddy, the oxen will perish, and the paddy be dear: if they fall on horses and elephants it is a sign of war. The bramins tell the people that Sunkeruntee, one of the Demi-Gods, comes every year on earth on this day, to discover to them whether their future lot will be good or evil; which he announces by the grain he eats, and the animal he rides of which they are informed by certain astronomical calculations. The same evening the Hindoos, with their families, make presents to and visit each other, to wish a good Pungall: somewhat after the manner observed among Europeans on Christmas and new Year's days.

12. *Tye Poosem*—On the day of full moon when the moon is in the constellation Pushyme in the month *Tye* this festival is solemnized in the temple at Palany. It is very famous, and people flock to it from all parts of the country: and devotees who by particular reasons are prevented from going to that place, send presents which are called *Palany codum.* This festival is also celebrated in all the temples of Seevah, but with less pomp.

13. *Masy Makhum*—On the day of full moon or on the next day on which the moon is in the constellation Magham in the month of Masy or February-March, this feast is celebrated. It consists in performing ablutions in sacred water. The Hindoos are enjoined to fast on that day and make the Turpanum to the spirits of their deceased ancestors.

14. *Pungnyooturum*—On the day on which the moon is in the constellation *Oottaru* in the month Pungoony or March-April, this festival is celebrated in the temples of Seevah in honor of his wife, the Goddess Parvatee.

The foregoing are the principal festivals observed by the Hindoos. The eleventh day of every fortnight is moreover kept holy by the observance of a rigid fast, and on the days of the new and full moon as well as those in which an eclipse of either the sun or moon takes place, and on several other occasions, a demi fast is observed by them.

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The Ceremonial of the Ordination of a Burmese Priest of BUDD'HA, *with Notes, communicated by* GEORGE KNOX, *Esq., of the Hon. East-India Company's Medical Establishment, Madras.* (Transactions of the Royal Asiatic Society.)

Read 18th of June 1831.

To Sir GEORGE THOMAS STAUNTON, *Bart., V. P. R. A. S. &c. &c. &c.*

London, 26th April 1831.

SIR:

In the course of a conversation held not long ago at Canton with Professor NEUMANN, respecting the affinity between the Chinese and Burman languages, I happened to shew him a translation that I had, which he considered somewhat curious, and recommended me to present to the Royal Asiatic Society; and Doctor MORRISON offered me an introduction to the President, which, with the translation, I have now the honor to forward to you.

It is fair that I should, at the same time, submit a short criticism of the Doctor's, which I found with the manuscript on its return from him; and to mention that I transcribed it anew, leaving out some redundancies of expression, and the too frequent mention of the sacred name, which, if nothing more, appeared irreverent. Respecting what the Doctor remarks, I would say, that the work is the translation of a translation (for I know nothing of the Pali), and that as such it was delivered to me orally by a respectable native, whom I employed in the business: I profess, therefore, to be answerable only so far for its fidelity; but I have little or no doubt that the spirit at least of the original is preserved.

The Doctor also takes, I suppose, his notions of Buddhism from the Chinese people alone; but having seen both, I can affirm, that the Burmans appear to be a much more religious people than the Chinese, at least externally, if one may judge from their regular visits to their temples, and the deep veneration with which they regard the priests and every thing belonging to their objects of worship. It is, however, possible that my assistant had caught something of the turn of expression in use amongst us on matters of religion, as he had associated, a good deal with the American missionaries who visited the Burman country.

I have the honor to be, Sir,

Your most obedient servant,

G. KNOX.

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The writing which treats of the ordination of a Priest (1)

The offering(2) of the just king [titles](3), in whose hand are the lives (of his subjects), and at whose expense was constructed the pagoda of "Pacified Anger."(4)

(This, like many other of the Burman writings, begins with the following prayer:)

"Oh LORD, filled with glory and power unspeakable, who art "infinitely more excellent than all creatures, whose words are by "far more valuable than the words of all other beings; who art "wise far beyond the wisdom of man, and whom men nor angels(5) "cannot equal; who art not subject to misery or trouble of mind, "and to whom all secrets are laid open; who canst confer happi-"ness on all beings, and knowledge on the ignorant: therefore art "thou called the LORD. What is now said is but a little; the "whole life would not suffice to speak it all. THEE, therefore do "I worship. The laws uttered by thee, are eighty and four thou-"sand: these also do I worship; and I worship the people who "abide by these commandments.

"Therefore, on account of worshipping these three, keep me free "from the ninety-and-six diseases (6) that assail the body; from "the thirty-and-two accidents and misfortunes that happen to man, "and from the twenty-and-five unlucky circumstances that befal "him; from the sixteen sources of trouble; from the ten crimes, "and their corresponding punishments; from the eight cala-"mitous conditions, (7) and from the five enemies: (8) from all "these deliver me; and grant unto me gold, (9) silver, pre-"cious stones, sons and daughters, relations and friends, ser-"vants and slaves, guards and protectors: these grant me; and "grant me also a good reputation (or the quality of inspiring res-"pect). Fill me with all these; and after death let me reach "that place, where I may hear the law of the Creator: thus, old I "shall not become, nor sick, nor shall I die, but shall exist unto "eternity."

First, a teacher (or priest) of advanced age must be sought for; and after he is found, the *thabike*,(10) and *thanegan*,(11) and the rest of the eight things necessary must be obtained: and these are the eight things: a *thabike*, *thanegan*, folded leather,(12) a water-strainer, a fan, a razor, three needles and a broom. After having procured these things, it is necessary to go to the presence of the teacher advanced in years, and thus address him; "Oh, my Lord, admit me to the noviciate of the priesthood: I will adhere to the

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Ten Ordinances.'" To which the teacher answers, "Good, you may enter the noviciate: you must not take away life; you must not steal; you must lead a life of perfect celibacy; you must not speak that which is untrue, nor make use of abusive words or coarse uncivil language, nor jests; and you must not sow dissention among friends; any thing of inebriating quality you must not use; after the sun has gained the meridian, you must not eat; you must not listen to music, nor look on at feasts or dancing; you must not wear flowers or use perfumes; you must not sleep on a high couch or soft bed; you must not possess gold or silver, nor even touch them: that you transgress not these ten rules you must carefully watch." Thus must the teacher direct; and the novice must say, "Good, my Lord, I am willing."

Again, at the time he wishes to become a *rhahán*, he must prepare a large *thanegan*,(13) and it must be four cubits broad, and six cubits and two *mike*(14) long, made of nine pieces, and sewn together with fifty-four double seams; and after it is sewn it must be washed, and afterwards dyed with the wood(15) of the jack-tree, cut into small pieces and boiled in water; afterwards the dyed *thanegan* must be wetted with the juice of the leaves of the *dowkyat*.(16) After this a *thabike*, and the rest of the eight things necessary (like as was ordered for the noviciate, a fresh supply of these), must be procured and kept ready; and the novice must then go to the presence of an aged teacher, well acquainted with the sacred writings, and along with him he must solicit the attendance of twenty other priests, and they must then go to the *thyne*.(17)

Having reached the *thyne*, the person about to be made a priest, must make obeisance to the others, and the chief teacher then, and the three readers, say, "According to established usage, he must now be interrogated."

Questions now from the three readers (18) to the candidate:—

Q. Have you sought for and obtained the attendance of priests of advanced age, and who fulfil the ordinances of the law, for the purpose of ordaining you?—*A*. I have.

Q. Have you procured a *thabike*, *thanegan*, and the rest of the articles necessary?—*A*. They are all in readiness.

Q. Are there twenty priests present?—*A*. There are.

(By the readers.) Such being the case, you must now put on the two portions of the priest's garment (the one that goes round the waist and the upper robe); and the remaining *thanegan* (the one for a change of dress), must be folded and kept on the left shoulder. Afterwards the *thabike* is to be suspended from the shoulder of the

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right side, under the arm of the left; and the rest of the "eight articles" must be put within the *thabike.* The candidate then, with lifted hands and joined (in attitude of supplication), must retreating go and stand at the distance of twelve cubits, and there, with his feet joined close together, he must attentively remain, and should not turn to either side.

After this is done, the chief teacher says to the three readers: "Two of you three rise and go over to the candidate and interrogate him." This being said, two of the readers get up, and go to the place where the candidate is, and standing, one on each side of him, they (reading) say: "You must now answer truly."—*A.* I will do so.

(By them.) Every thing respecting your body, without disguise, you must declare; and according to the question answer, and from all other matters you must keep your mind clear.—*A.* Good, my Lord.

(By them.) Like as a cloth with which the feet are wiped at the door of a house, like as it is of little estimation, and like as it is applied to whatever use any one may choose, so must your mind be humble, and so must you receive the commands of your chief teacher.—*A.* Good, my Lord.

Q. Therefore, in your body, (19) is there any leprous disease?—*A.* There is not.

Q. Is there any of that disease which appears by sores in the neck?—*A.* There is not.

Q. Are you a person of a sickly habit?—*A.* I am not.

Q. Are you subject to a constant cough?—*A.* I am not.

Q. Have you any impediment in your speech?—*A.* I have not.

Q. Are you truly a human being (a mere mortal man)? (20)—*A.* I am.

Q. Are you perfect as to virility?—*A.* I am.

Q. Are you the offspring of human parents?—*A.* I am.

Q. Are you the follower of a chief, (21) or in the employ of any one?—*A.* I am not.

Q. Have you received the permission of your parents to enter the priesthood?—*A.* I have.

Q. Have you completed your twentieth year?—*A.* I have.

Q. Have you procured a *thabike, thanegan,* and the rest of the articles necessary?—*A.* I have.

The two readers then return to the chief teacher, and with the third of their number read as follows: "My Lords, we have

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now interrogated the candidate as was commanded us, demanding of him all that was necessary to be asked; therefore, that he may be ordained, will the chief teacher learned in the sacred writings and the other priests consent?" Then the chief teacher, for himself and the rest, says; "Good, very well." The candidate still standing as before, the chief teacher says: "Let two *rhahâns* conduct him hither." Two *rhahàns* then go and bring the candidate to the rest of the assemblage; and he having made a proper obeisance, sits down along with them.

The readers then instruct him to say to the chief teacher: "My Lord, may health, freedom from misfortune, eternal youth, and immortality be my portion. According to the law uttered by him who has no equal, according to it will I act. I will keep my body and my mind humble; and will humble myself regarding meat, drink, and resting place. I will conform to the law spoken by the divinity; therefore, from exceeding friendship, mercifully grant me permission, I beseech you, to be admitted a priest."

This he is to speak three times; after which the chief teacher and the readers shall ask him: "Oh, candidate, who art wishing to become a priest, as even now you have entreated, do you feel yourself competent to abide by what is contained in the sacred writings?"—*A.* I will abide by them.

Then the chief teacher says to the rest of the priests: "What think you, will this person abide by the law, as he has now professed?" Then the priests answer: "There are other questions to be put to him." The chief teacher then says: "Let the three readers put them." They say to him: "You profess that you will be governed by the rules of the everlasting law; let us interrogate you again." *Answer.* Ask, and I will answer truly.

They then repeat the former questions, and in addition, ask: "Are you hard of hearing?"—*A.* I am not.

Q. Are you an absent(or forgetful) person?—*A.* I am not.

Q. Are you perfect in the five bodily qualities? (22)—*A.* I am. (He is questioned altogether three times, that there may be no omission or mistake.)

The candidate then petitions the chief teacher: "Oh, my lord, who art well acquainted with the sacred writings, and who art of advanced age; now have I for the third time reverently and according to the truth replied to you, in all that you have demanded of me; therefore, oh my lord of venerable years, and ye three readers, and all ye other priests, ye are witnesses of all that has been

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asked me, and I have replied truly to the same; therefore, from compassion to me, grant me permission to be admitted a priest."

After this, the priests coming round the candidate, one of the three readers stands before him and the others at either side, and they read from this writing, their three voices forming as it were one: "Oh venerable lord, learned in the sacred writings, and all ye other priests, this candidate, who is desirous of becoming a priest, having equipped himself with *thabike, thanegan*, and the other things required, begs permission to be admitted to the priesthood; will you give your consent?"

Then the chief teacher says, "It is a very difficult matter to abide by the law; and it is particularly the duty of priests to strive after it, for men who live in the world cannot do so, whether they be chiefs, or persons of unbounded wealth, or merchants, or cultivators: these cannot keep to the two hundred and twenty-seven rules, but *rhahâns* must endeavour to keep, them."

After this the chief teacher and the other priests announce to him that he is admitted a priest, and admonish him, thus: "Take notice that from this day you are a priest, therefore greatly must you rejoice; and according to this joy, see that you observe the two hundred and twenty-seven rules, and that they be not transgressed by you, and you may accept what (in a religious manner) is offered to you. If you do not govern yourself by these precepts, you are not a priest, but an ordinary man, and are not worthy to receive the offerings that would be made to you; for if unworthily such are received and turned to use, it is like a person attempting to swallow a lump of red-hot-iron." The new priest answers, "Good, my Lord."

"The man who enters into priest's orders must carefully note the day, the month, the hour, the length of his shadow, (23) and the season of the year at which he becomes a priest. Four things are there which must be avoided; four, also, which should be done."

"To obtain food, he must go round and beg, (24) even till wearied in his limbs by so doing, and on food obtained in this manner must he all his life subsist. If a pupil reverently invite him, he may go and eat at that pupil's house, or he may carry thence food offered him. He may also eat the food which a pupil brings to his monastery and there reverently offers him: he may partake of the food presented to a number of priests in a body, and of that offered by lot. Thus, of whatever is offered on any day of the increase of the moon, (25) and whatever is offered on any of its decrease, that which is offered on a worship day, (26) and that which is offered on

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the day after a worship-day, of all or any of these may he eat." The new priest answers, "Good, my lord."

"A garment made from rags that any one has thrown away, and which the priest having collected has washed and sewn together, this may he wear and with such must he be clothed even till the end of his life. But if by a pupil a garment be presented to him, he may wear such, whether it be of that expensive and fine kind which is brought from a distant country, or whether it be of cotton, or of silk, or of woollen cloth, or the woven bark of a tree, or that made from the down of birds; any of these he may wear instead." *Answer.* "Good, my lord."

"After having become a priest, if he has no monastery to stay in, he must live under a tree,(27) and in that manner must he be all his life. Unless a pupil make an enclosure, and build a monastery, and offer it: in this a priest may reside, whether it have a lofty top or a square one, or one of only one story, or be a monastery, built of masonry in an arched form: in any of these it is lawful for a priest to reside." *Answer.* "Good, my lord."

"I will direct you what is to be done in case of sickness. Having collected the urine of a black bull or ox, boil it, and dissolve salt therein, and afterwards add these three fruits; (28) this while fresh, may be kept as medicine; also, any medicine which has been thrown away as useless by others, and which a priest finds, he may take for himself. The medicine also which a pupil offers, that may be used, whether it be butter, or cream, or sesamé oil, or honey, or molasses: all these may be used."—*Answer.* "Good, my lord."

"After a man has become a priest, he may not marry; but must lead a life of strict celibacy; if he do not conform to this, he is no longer a priest, nor of the children of the deity. As soon may the severed head be rejoined to the trunk, and the corpse revive, as such a one continue a priest; and even until the end of life must he so remain: thus hath the divinity appointed."—*Answer.* "Good, my lord."

"After becoming a priest, he must not take, without the owner's leave, even a morsel of grass, or the paring of a bamboo, for if he do so he is not of the children of the divinity. He must not take the value of a *matt* (a quarter *kyat* or *tical*), or over this, or under it; as soon may the whithered leaf be rejoined to the tree and thrive again, as such a person remain in the priesthood."

"The idea of taking away the life of a man must not enter into the mind of a priest; neither nust he take away that of brute ani-

mals, nor even of a worm: he who does so is not the child of the deity. As soon might a broken stone be joined together and become whole again, as such a person continue a priest; and even till the end of his life this must be his rule: the deity hath so directed."—*Answer*, "Good, my lord."

"After becoming a priest, the thing that is untrue must not be spoken, nor any of the 'ten precepts' (29) infringed. It must not be said, 'I can fly in the air,' or 'penetrate the earth,' or 'go under the water,' or 'I shall certainly attain happiness in the next life,' 'the evils of this life cannot hurt me,' or 'I can render myself invisible.' Like as a palmyra-tree of which the top has been cut off ceases to throw forth leaves, so he that says things of this sort cannot continue a priest. Thus hath the deity ordered."—*Answer*. "Good, my lord."

"There are four similitudes, and you must keep them in remembrance."—*Answer*. "Good, my lord; so long as I wear the garment of a priest I will abide by these precepts, in hope that, by keeping them, I shall in death exchange this life for a better, and knowing also that if I do not I shall be turned into hell."

These are the rules respecting the *kattine thanegan*. From the eighth day of the increase of the moon *Tazownmown* (about November), until the fifteenth day of the same, is the proper time for those who wish to buy and offer garments to priests to do so. Cloth for two upper garments and one under garment, needles, thread, jack-tree wood, *dowkyat*: these articles are to be purchased, and taken whilst it is yet night to the neighbourhood of the monastery where dwells the priest,* learned in the sacred writings.

These things are to be put down at the steps; and in order to bring it to the knowledge of the priest that they are there, the man who offers them is to throw some pebbles against the house from some place of concealment hard by. Then the priest, being aroused, will get up, and on coming down the steps will perceive the cloth and other things; he must then three times enquire, saying, "Is there any owner for these things?" and no owner being found, he may then take and put them aside for his own use. After this, the man who has been abiding in concealment is to go up into the monastery, and petitioning the priest, say, "My lord, is there any owner for the things you took up just now?" The priest answers, "There is not." The other then says, "As that is the case, I will

* To whom it is intended to offer them.

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make up the garment for you, if you please to let me have it. The *rhahân* then gives it to him, and he takes it to his house, and calls a person who understands how to make up these garments, gives him food, superintends the work, and sees that it is properly done. When they are made up, he washes, dyes, and hangs them in the shade to dry; he then buys a *thabike,* and the rest of the eight things necessary, and solicits the attendance of several priests—if in a large town twenty, if in a small jungle-village nine. Then on the full of the moon *Tazownmown* he is to take the "eight articles" to the *thyne,* and there give food to all the priests. Before going to the *thyne,* the priest to whom these eight articles are to be offered is to instruct the man who offers them in all that is necessary to be done, and is to inquire if all is right and according to the sacred writings. At the *thyne,* the priest thus addresses the others: "My lords, I beg you to attend to what I am going to say. These things are brought here to be offered to me, so, in presence of this company, I will put on these clothes, and by so doing bind myself to observe the rules laid down in the sacred writings (for the wearing of such); I beg you therefore to take notice." Then two of the company read from this writing, and ask, "The man that offers these things, and has called all these priests together, to him and to the priest who receives them, and keeps the ordinances in such cases required, to both of these persons what advantage will arise?" Then they answer, and say: "The advantage promised in the sacred writings."(30) "Therefore let the priest put on the clothes, and let him not put them off nor change them, from the full of the moon *Tazownmown* to the full of the moon *Tabown* (four months), and let him not be ashamed of so doing, and let him eat but once a day, and let him reside in a place where there is nothing to attract the eye or ear, and let him reflect on the thirty-two elements of which his body is composed (blood, bones, flesh, &c.), then at night let him repair to a burying ground, apart from where men pass to and fro, and there let him reflect on the forty circumstances of mortal dissolution (*i. e.* he is to reflect on the difference between man in his strength and comeliness, and man deceased and resolving into his component elements); and before daylight again, let him take his *thabike* and proceed to collect food from house to house, standing before the door of each (*i. e.* take the food, if offered; if not offered, he must remain fasting); then let him go to a secluded spot and eat, reflecting on the hundred and eighteen qualities of the body (as to what agrees with and is suitable for it, and the reverse)."

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After this he puts on the garment, and makes obeisance to the other priests.

He who does this is not to eat with the rest, but to keep himself secluded.

NOTES.

(1) This is a writing in the Pali language and character, and relates to the instalment of persons into the priesthood, their probationary course for it, and prescribed line of conduct after admission. To get at its meaning it was necessary for the original to undergo several transformations; first, from the pure Pali into a mixture of Pali and Burman, then into a pure Burman,* and from that it was taken down verbally in a sort of English, resembling Burman in its inverted structure, before being brought into its present form.

The leaves of books of this kind are mostly made from the leaves of a large species of palmyra; but these being seldom broad enough, are artfully joined in the middle length-wise, sewn together with silk and lackered over. On the lackered surface the writing is made, and the gilding laid on, the leaf is afterwards rubbed with a wet cloth; and on account of there being a mixture of yellow orpiment in the ink, the gilding does not adhere closely to the whole surface, but readily parts from the writing and lets it appear. It does not seem as if the leaves of this book† were made from two pieces joined; it is more probable that, as it was to be a royal offering, leaves of the largest size were sought for to make it up from. A tree that bears such is "one of a thousand;" and the people have a saying, that for every one of this kind that is found a man learned in the sacred writing also appears. These trees, also, are royalties.

(2) This writing was offered by Sane-pyoo-shane, the third of the *Alown Purra (Alompra)* dynasty, and second son of its founder. The dedication appears, both at the beginning and end of the book, in handsome gilt characters. This king ascended the throne in the year 1134 of the era of Gaudama, and died in 1138; the present year. A. D. 1827, is 1188, of that era: the book must therefore be at least fifty years old.

(3) The title consists of fifteen syllables, or rather Pali words. This is one of the longest that a king can have; the heir apparent

* Which was done by a learned native.

† The book in question belonged to Mr. Heward, of Madras, and was intended for Sir C. Grey. Great numbers having been found in the monasteries during the Burman war, it is probable that many were taken to England. Some were made of large plates of ivory.

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may have twelve or thirteen: but it does not entirely depend on the will of the party how many syllables he may have, but on the number out of the "ten virtues" that he possesses. This king, with the title of fifteen syllables, took more it is said than he deserved, and therefore his reign was but short. Some king, a long while ago, in Ceylon, took a title of twenty-one words at the time he had reigned seven years; but after this act of presumption he lived to enjoy his honours only seven days. It is not lawful to translate the title of the king. The number of words in a title forms a gradation of rank. Persons may not assume place with those who have longer titles than themselves; if they do, the party intruded on may cut (with his knife, the *sitting party* of) the intruder.

(4) This is the translation of the name of a pagoda of large size in the city of *Ava*. The occasion of its construction was as follows:—Upon ascending the throne, the king gave to his four younger brothers employment in the government, and built palaces for them near his own, at the four cardinal points. The three younger of these brothers conspired against their eldest brother and sovereign to put him to death; their excuse for which was, that he had constituted his own son heir-apparent in contravention of the dying commands of Alompra, who had directed that *his* sons should succeed to the throne, according to their seniority; asserting moreover, that Sane-pyoo-shane was not entitled to reign, having been born whilst their father was yet a man of low estate; but that they were the lawful heirs, being the sons of the *king*. The remaining brother, Mown-wine (grandfather of the present king), having also been born before their father became a king, was not admitted to the conspiracy. The conspiracy failed, and their lives were of course forfeited; but the king spared them, and built the pagoda in question to commemorate the circumstance: two of them, however, were afterwards put to death, and the third banished to a distance, by Mown-wine. The accessions from Alompra to the present king have been as follows:

First. Alompra, in the year of Guadama	1116
Second. His son, Nown-dawghee	1123
Third. Sane-pyoo-shane brother of the last	1134
Fourth. Sane-goo-za, Son of the last	1140
Fifth. Guamown, Son of the second, reigned but seven days	1143
Sixth. Alompra's son, Mown-wine	1143
Seventh. The present king, grandson of the last	1181

(5) Or rather *Nats*, imaginary beings, good and bad: the good inhabit certain stages of the sacred mountain "*Myeen-Moe*," or the "highest;" the bad live in jungles and hills on earth, and

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trouble mankind. Very good men, after death, may become *Nats*. The day of a *Nat* is equal to a hundred years of the days of man, and their lives consist of a thousand years of these days; they then vanish into nothing, as from nothing they arose.

(6) Such is the number of the diseases their writings say the body is subject to.

(7) First, the place where a woman rules; second, that where only brute animals exist; third, where a minor is king, &c. &c. Hell.

(8) Rulers, thieves, fire, water, people who hate one.

(9) The speaker prays for that which as an ordinary man he would wish for in a future state of existence. As a priest, he must not even touch gold or silver, and should not possess any secular property.

(10) *Thabike* is the name of the black earthen pot which the priests suspend in front of them when they go their rounds to collect food. It should be five spans in circumference.

(11) *Thanegan* is the name of the robe, or upper garment, which the priests wear. The people look with the greatest reverence on it, and with corresponding horror on its being applied to any common purpose, as was often shewn during the late war by their remarks when any of our troops or followers were seen in possession of one.*

Although youths of all ages appear clothed in it, they are not yet priests, nor can they be till the age of twenty-one. Up to this period they are merely probationers, and employ themselves in reading the sacred writings, attending on the elder priests, and studying the "ten rules," *viz.* First, not to take away life; second, not to take furtively the smallest thing; third, to lead a life of celibacy; fourth, not to speak untruths; fifth, not to partake of any thing of inebriating quality; sixth, not to eat after noon; seventh, not to dance; eighth, not to wear any scented or other flowers, not to use any perfume or look in a glass, and not to look on at feasts and dancing, or listen to music; ninth, not to sleep on any bedstead of more than a cubit high, nor on a soft bed, but on a mat or carpet; tenth, not to touch even gold, silver, or precious stones. If a novice offend against any of the first five of these, he cannot remain as a student, but must put off the priest's garment, and as the phrase is, "become a man again," until by penance he has amended. Offence against the other five may be forgiven, upon merely performing certain acts of penance enjoined by the superior, as sweeping the floor, drawing water, &c. &c.

* The Chinese priests sometimes use a similar sort of garment.

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(12) To sit on.

(13) Which must be made of double cloth. That worn by the novice is single.

(14) A *mike* is a measure of length, the distance between the point of the thumb and the outside of the clenched hand.

(15) Which produces a brilliant yellow.

(16) These leaves are somewhat acid, and seem used to fix the colour.

(17) "*Thyne*" is the name of a house built for worship in a secluded place. One description of *thyne* is built on ground the entire property of which has been purchased from the sovereign for that particular purpose, by some one wishing to perform a work of merit in making an offering of the same. The mere price may be great, or the sum expended may be large, from the necessity of giving large bribes to the courtiers to procure the royal permission. A *thyne* near *Shwaydown*, known to the Burman who translates this, built by one of the king's steersmen, cost perhaps ten thousand ticals.

(18) Three of the company set apart for the purpose.

(19) See Levit. c. xxi. v 17. *et seq*.

(20) This question is put, because they have an idea that in former times certain malignant beings of superior power occasionally assumed the human form, and having obtained admission to the priesthood, did afterwards grievously offend against its canons, and thereby draw down much scandal on the order.

(21) This is asked, because people of this class are said to be oppressive to the poor, forgetful of their parents, haughty, and fomenters of trouble.

(22) Use of eyes, ears, nose, arms and legs, and trunk.

(23) Taken by measuring the length of it with his footsteps.

(24) Or rather receive it when offered. A priest may not ask for food, but should stand mutely before a door for a time, and take it if given.

(25) Because each person chooses what day he likes to make his religious offering on.

(26) There are four worship days: the eighth day of the increase, the full, the eighth day of the decrease, and the disappearing of the moon.

(27) He may not construct a residence for himself.

(28) Two of these are, the *terminalia chebula* of Wildenow, and the *phyllanthus emblica* of Linnæus. The name of the other is uncertain.

(29) The "ten precepts" are as follow: first, to make religious

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offerings; second, to refrain from taking away life, from stealing, lying, and committing adultery, and from the use of whatever inebriates; third, to repeat portions of the law (divine); fourth, to assist one's parents or teacher if they fall into difficulties; fifth, to rejoice on account of one's good works; sixth, to invite friends to do the same; seventh, to abide by the law; eighth, to listen to the preaching of the same; ninth, to desire to continue in the straight road (to virtue); tenth, divinity, law, the ministers of religion, and things belonging to it; one's parents, teacher, old people, and people of wealth and respectability; all these are to be honoured.

(30) In the next life, the *rhahán* in question may rise to a higher grade of being, and return to the same for ten thousand returns of life; and should he become a man, he will have every thing that is good, and be provided for as if he had a tree which produces all the necessaries of life at the wish. The man who offers the thing to the priest will have his corresponding good fortune also.

It seems strange that there is not throughout the book any mention made of a certain fancy entertained amongst the Burmans, and looked upon by some as the thing most to be desired, *viz. Nirvan*, or annihilation.

Observation by the Rev. Dr. Morrison, *referred to in Mr.* Knox's *Letter, p.* 25.

On Note. 1.—The translation is too much Anglicized to be satisfactory as to its fidelity. Buddhists speak not of a "Creator of the universe," or the "children of God." The translation is not only Anglicized, but also Christianized.

There is much that is very interesting in this MS.

Canton, Nov. 12 1830. R. M.

Description of the Climate at Manantoddy, communicated by Captain Minchin, Commanding the Wynaud Rangers.

1832.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.
Mean Temp: at day light.	46	53	63	64	66	66	65½	65⅓	63	63½	63	58
"Greatest heat.	68	74	78½	79	78	72	68½	68½	72	72	73	72½
"Temp: at 12. P. M.	66	73½	76	76	76	71	67½	67½	70⅓	71½	72	71
Extreme Indication of Ther.	39.72	44.78	58.79	58.82	62.81	62.78	63.70	61.70	58.74	54.74	54.74	51.74
Mean Temperature.	60	65½	72	73	73⅓	69	67	67	68	69	69	67
No. of days rain fell.	0	0	0	7	5	26	31	31	10	12	3	0

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the ... of Mysore, the government of which has been transferred to the East India Company.

fell.	[illegible]	0	0	0	7	5	26	31	31	1[illegible]	12	3[illegible]	0

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PROCEEDINGS OF THE ROYAL ASIATIC SOCIETY.

The tenth annual meeting of this Society was held on Saturday; the President, the Right Hon. C. W. Williams Wynn, M. P. in the chair. The reports of the council and auditors were read, and gave great satisfaction to a very fully attended meeting. The report of the council lamented the continued illness of Mr. Coleboooke, which deprives the Society of his valuable personal assistance; it also noticed in appropriate terms the many distinguished ornaments of whom the Society has been deprived by death during the past year, recording particular notices of the following: viz. H. H. the Rajah of Tanjore, Dr. Adam Clarke, Colonel Baillie, Mr. J S. Lushington, Dr. Turnbull Cristie, and Mr Hyde Villiers. Among the foreign members, were mentioned M M. Remusat, St. Martin, Chézy, Jacquemont, and Rask. The donations to the Society have been more numerous since the last report than during the preceding year. They are chiefly of a literary character; the East India Company, the Royal Societies of London and Edinburgh, Royal Irish Academy, the Société Asiatique of Paris, and many other distinguished literary institutions, were recorded among the donors. Of the presents received from individuals, the council particularly noticed the edition and Latin translation of Mirkhoud's History of the Gaznevide Monarchs, dedicated to the Society by Professor Wilken, principal librarian to the King of Prussia; and the Essay on the Architecture of the Hindoos by Ram Raz,* a corresponding member of the Society. The council intimated that this interesting work, with its beautiful illustrative drawings, was under the consideration of a committee, with a view of preparing a plan for its publication. After these notices of the most important donations, the report mentioned that a new prospectus of the Society's objects and means had been prepared, and would shortly be issued; and in the next place called the attention of the meeting to the 2d part of Vol. III. of the Society's Transactions, this day laid on the table. Among the papers contained in it, is a communication from a native of India, Ramasami Mudeliar Jaqhirdar, of the island of Sivasamudram, being the first of that description which has yet been published in the Transactions; and to this fact the attention of the members was particularly directed. In conclusion, the report adverted to the peculiar claims of the Society to support, as affording a medium by which the latent energies and acquirements of the na-

* **This gentleman was for many years head English master of the College of Fort St. George; he has recently been appointed one of the native judges for the province of Mysore, the government of which has been transferred to the East India Company.**

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tives of India might be brought into active exertion, and do honour to themselves, while they proved beneficial to their country; and in alluding to the legislative measures at present contemplated with regard to the future administration of our Indian empire, the council trusted that they would be such as would not only tend to promote the prosperity of that important part of the British dominions, but be fully entitled to the approbation of posterity. Mr. Macklep, one of the members appointed to audit the Society's accounts for the year 1832, read the report, which stated that the total receipts for that year amounted to 1148l. 10s. 4d., and the disbursements to 987l. 2s.; balance in favour of the Society at the end of 1832, 160.l 11s 2d.; ditto at the date of the report, 230l. 14s.; the estimated receipts for 1833 are 1458l. 9s. 10d., disbursements 1165l. 5s.; expected balance in favour of the Society, 293l. 4s. 10d. The assets of the Society are calculated at 3537l. 10s. 11d. Sir Alexander Johnston then delivered the report of the proceedings of the committee of correspondence since the last anniversary, but we cannot do more than indicate the leading points of this interesting *exposè*; they were, the nature and extent of the systems of education as established among the natives of India; statistics, slavery, the modes of representative government formerly obtaining in Southern India, particularly the western coast, and the history of those places in the Southern Peninsula, and the island of Ceylon, which were in ancient times the emporia of the trade carried on between Europe, Arabia, &c. and Eastern Asia. Sir Alexander was requested to reduce his remarks to writing, that they might be printed in the Appendix to the Transactions, and thanks were unanimously voted to him for his able report. The president next addressed the meeting, recapitulating the principal subjects noticed in the various reports which had been read, and directing attention to the favourable prospects of the Society, as regarded its future progress. After this address, the thanks of the Society were unanimously voted *seriatim* to the council and officers of the Society, for their services during the past year; the resolution relative to the secretary, Mr. Graves Haughton, being couched in strong terms of regret at the loss of his valuable services in that department; Mr. H. having resigned the office from ill health. After the ballot, the scrutineers declared the following gentlemen to be elected members of the council, viz. Earl Caledon, Right Hon. H. Mackenzie, Hon. R H. Clive, Hon. M. Elphinstone, Col. Blackburne, Capt. Harkness, Mr. Hodgson, and Mr. Tucker, in the places of Earl Amherst, Lord Bexley, Sir William Ouseley, Mr. Baber, Col. Baillie, Mr. Butterworth Bayley,

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Col. Lushington, and Mr. D. Pollock. Capt. Harkness was elected secretary.

The members and their friends dined together in the evening at the Thatched House Tavern, Mr. Wynn in the chair; supported by the Rajah Ram Mohun Roy, Prince Czartoryski, Count Neimcewicz, Right Hon. H. Ellis, Sir A. Johnston, Sir H. Willock, Sir Edward Owen, Sir Ralph Rice, Chevalier Don Lopez de Cordova, &c. &c.

Proceedings of a meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society held at the Society's Rooms, at the College, on Thursday evening the 8*th August* 1833.

Present.

The Right Hon. Sir F. ADAM, K. C. B. *Patron.*

The Honourable Sir R. PALMER, *President in the Chair.*

The Venerable Archdeacon T. ROBINSON, A. M. *Vice President.*

Lieut. Col. CULLEN,	Lieut Col. NAPIER,
S. SAM, Esq.	Captain T. MACLEAN,
Revd. Mr. SPRING,	A. DUNLOP, ESQ.
Dr. J. STRACHAN,	Lieut. Col. COOMBS,
Revd. Mr. HARPER,	Dr. T. H. DAVIES,
Dr. BENZA,	C. V. LUTCHMIAH, and
Captain CHASE,	J. C. MORRIS, Esq. *Secretary.*

An able and interesting paper on the rise and early history of the Syrian Christians on the Malabar Coast by the Venerable the Archdeacon, was read to the meeting by the learned author, to whom the thanks of the Society were unanimously voted. It was further resolved that the paper in question be adopted by the Society and be set aside for publication.

It was then proposed by Lieut. Col. Coombs and seconded by Lieut. Col. Cullen.

That it is desirable with reference to several interesting memoirs and papers which have already been submitted to the Society, and to others which may hereafter be received, to adopt means for giving them earlier publicity than the necessarily distant and slow publication of the Society's transactions will admit; and, that independently of papers read before the Society and of notices of their meetings and proceedings, the publication under the auspices of the Society of a monthly or quarterly Journal, similar to the Asiatic Journal of Calcutta, would by affording a suitable vehicle for occasional essays and papers connected with subjects of oriental litera-

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ture and science be in strict furtherance of the professed objects of the Society, and likely to prove if adequately supported and encouraged, eminently and extremely useful.

The foregoing resolution having been discussed was agreed to and it was resolved to refer the same to the Committee of Papers in the Asiatic Department to arrange the details and adopt the necessary measures for carrying the plan into effect.

The following works have been presented to the Society since the last meeting and the thanks of the Society were unanimously voted to the donors.

Notitia Linguæ Sinicæ,...........	Ensign Newbold.
A Chinese Classical work commonly called The four Books,.........	do.
The Anglo Chinese Kalendar for 1833	do.
Report of the Malacca Mission Station and Anglo Chinese College,......	do.
Frith's Questions and Answers on the duties of Artillery,.............	The Author.
Braddock's Memoir on Gun Powder,	The Author.

The thanks of the Meeting were voted to the Honourable the President for his able conduct in the chair.

J. C. MORRIS,
Secretary M. L. S. &ca.

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APPENDIX.

DESIDERATA *and* ENQUIRIES *connected with the Presidency of* MADRAS.

LANGUAGE AND LITERATURE·

Fac-similies of ancient inscriptions, with translations and alphabets of their characters.

Well written alphabets of all the modern languages.

It is certain that the Hindu languages of the south of India are not derived from the Sanscrit, and it is a tradition which this circumstance confirms that the Brahmans, with their religion and language, came from the north. The question regarding the time when the *Vadamozhi* or northern tongue (the Sanscrit) was introduced, is one of great interest.

A comparison of the different languages of the south and an examination of what they have borrowed from the Sanscrit, with an accurate account of the geographical limits of these languages.

Which is the most ancient character in use in the south of India?

Is there any trace of a language which may be considered the parent of those now existing in Southern India? If so, what is its name? Where was it vernacular? And how far has it entered into the formation of the other peninsular languages?

Does the Purvada Hali Canada answer in any degree this description? Some account of this language with a well written alphabet of its characters as appearing in inscriptions, it is believed may be obtained from learned Jain Brahmans. One of this sect, employed by Colonel Mackenzie, thoroughly understood it and if still living, might probably furnish the information here desired.

Copies and translations of the inscriptions at the caves of Kenera in the Island of Salsette, which are in this character, might be useful for this purpose.

Notices and catalogues raisonnèes of Libraries at Native Courts, in Pagodas, &c. accounts of their foundation, how they are maintained; if additions of books are occasionally made to them, and by what means they are obtained.

HISTORY.

Historical accounts of the erection of religious and charitable edifices.

In the province of Tanjore there are many Jains, principally Shróffs, and two or three ancient Jain temples. There are also some Jain

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temples in the neighbourhood of Conjeveram, and in all likelihood on enquiry they will be found to exist in the Mysore and in Canara, and many other parts of the territories under the Madras Government. It is probable that by an examination of the records and traditions in these temples, some authentic information may be obtained of the overthrow of this sect and the substitution of the Brahminical influence; as the tradition of the terrible and exterminating persecution which the Jains suffered many ages past, is still kept alive amongst them.

A correct history of the race of Princes south of the Coleroon, is much wanted. The name of Trimul Naig is memorable for his magnificence, his able civil policy and splendid religious establishments. Many of the most remarkable temples in Madura and Tinnevelly were erected by him, and more than fifty substantial foundations of temples in situations most judiciously selected, attest his piety, wealth and taste.

History of the provinces of Tinnevelly and Madura and of the erection of the several pagodas and forts, and of the settlement of the various tribes of Northern Brahmans on the lands on the banks of the Tambrapournie river in the province of Tinnevelly.

An account of the Cotta Vellalers in the Tinnevelly district.

An account of the origin of the Southern Poligars and the means by which they acquired the lands held by them.

An account of the settling of the Brahmans on the irrigated lands of Tanjore and Trichinopoly.

An account of the settlement of the Vellalers in the lands of the Carnatic Payenghat; with a notice of the countries whence they emigrated.

The History of the Northern Circars, with an account of the Rashwar settlers in that province.

To ascertain whether any native histories exist of the invasion of the south eastern peninsula by the Mahomedans and Mahrattas.

At Madura some notices it is supposed are still preserved in the hands of the Brahmans, which may throw light on the ancient government and colonies believed to have migrated to the eastern and western parts of the coast.

In Malabar and Travancore, vestiges of the early colonization of Keraa, Mallialum, &c. are supposed to exist. At Cochin the Jewish establishment deserves notice, and enquiry should be made respecting the ancient records preserved among the Jews, and the ancient inscriptions on copper which they possess.

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Does the town of Cochin give origin to an era in use in the neighbouring districts?

The ancient history, state and institutions of the south of India might be illustrated by materials of various descriptions in the hands of the Natives, which are liable to be neglected and lost; but might yet be recovered, such, as MSS. in any lauguage, with translations relating to the ancient government of the Pandayen, Chola, and Chera dynasties. Such MSS. are believed to exist in the Tanjore country, at Trivalore, Cumbeconum, Seringham, Chidumbrum, and in the Tondeman's country.

Records of the following descriptions may also be found.

Genealogies of the several dynasties and considerable families.

Chronologies, Registers and Records, sometimes preserved by official persons.

Prophecies, often really conveying under that assumed disguise, historical information with more apparent freedom than could be addressed to Oriental Sovereigns.

Tales and popular stories, sometimes containing correct information of remarkable characters and events. The Mahratta Bakeers are of this description.

Historical notices of changes of government and of facts connected with local establishments, which are occasionally to be found in the ancient financial records.

In the temples and *agrarums* of the Brahmans, the *mutts* of the Jangham priests of the Lingavunt sect, and the busties and temples of the Jain, two species of records were kept; 1st, the Mahatyams or religious legends, which appear to consist of passages extracted from the Puranums and apply to the local circumstances of the establishment; 2d, the Stalla Puranums, which are carried through the earlier periods of real history to modern times, detailing the dates of the several grants of land to the pagodas, agrarums, &c. of the immunities and benefactions granted, and the benefactors' names, titles and genealogies. Considerable information may be derived from these documents, and there is reason to think that some of the most correct are still preserved by the Jains and Janghums.

ANTIQUITIES.

As there is reason to think that a general comparison of the antiquities preserved in different provinces would be the most effectual means of throwing light on the early history of India; it is suggested that detailed descriptions of them, accompanied by drawings, be if possible, furnished.

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These antiquities may be generally classed under the following heads, viz.

1. Sepulchral monuments, mounds and tumuli.

2. Single stones on which rude figures of warriors are represented, and flat stones, with rude sculptures representing combats, objects of worship, &c. with or without inscriptions. These are in the Deckan denominated *Veeracull*, or heroic monuments.

3. *Sassanams* or inscriptions in various characters cut in stone, these generally commemorate grants of land, &c.

4. Vases, urns and lamps of clay and metal.

5. Statues, whether those so remarkable for their size and the uniformity of their sitting and standing attitudes, which belong to the Bouddhaic and Jain worship; or the more varied personifications of the Brahminical system.

6. Sculptured excavations, as those of Mahamaleipur, &c.

With respect to the sepulchral monuments, it is desirable to ascertain whether there are any ancient capitals of sovereigns in their vicinity, to whom they might have served as burying places. Some observations on the nature of the ground, and corresponding localities, will be useful in determining whether they were family tombs of dynasties; tombs of particular tribes or castes; the common sepulchres of large communities, or structures erected in commemoration of the slain in some remarkable battle.

In some instances the inner chamber of the sepulchre is composed of four stones, one of which is pierced by a circular opening. Sometimes a second enclosure of stone occurs, of which one of the stones, has a corresponding aperture.

Do any of the stones appear to have been chiselled? Are the quarries near that supplied them, and do they seem to have been constructed by the labour of numbers hastily collecting rude materials; or by workmen who had leisure to erect more laboured structures?

Are there any circles of stone, great or small, surrounding these tombs or any single stones of superior height and size, that might have been erected as particular marks or trophies?

Enquiries are recommended among the intelligent natives relative to their own ideas of these structures and of the traditions regarding them: the class of *Vyvyas*, or native Physicians, the *Jotishees*, or Astronomers, and frequently the head Ryots of villages, are the most intelligent and unbiassed sources of information.

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COINS.

The ancient coins found in the Peninsula of India, may be divided into four classes.

1. Roman and Greek, which, when not corroded by rust, are easily distinguished by the character and the outlines of the figures.

2. Mahommedan coins of the different dynasties, Arabic, Persian, Patan, Mogul, &c. and sometimes of the Caliphs who reigned previously to the first Mahommedan invasion. They are distinguished by inscriptions in Arabic or Persian, and few of them, except the *Z*odiac coins, have figures of any living creature: they are either round or square.

3. Hindu coins of various descriptions, sometimes with only inscriptions in Sanscrit, in the Dewanagari character, but generally distinguished by emblems of religion, by figures of deities and of animals, and by heads of sovereigns, frequently very rude. The most remarkable are the *Rama Tanka*, a gold coin, convex on one side and concave on the other, on which the coronation of *Rama* is represented, and the Canoge coins, on some of which is represented a king enthroned; on others an idol, &c.

4. Ancient Persian or Parthian coins, with inscriptions in the Pahlevi character, and sometimes in Greek. These are rarely found in India, and generally represent the fire worship on one side.

Curious coins are often presented at certain Pagodas, as Triputty, Trivalore, and Paddapollam. Various Chinese coins are also occasionally found on the sea coast.

In describing coins, a distinction should be made between such as were intended for money and such as served the purpose of medals.

COUNTRIES AND PEOPLE.

If there are any races in India with woolly hair, their history should be investigated, as they are probably not of Asiatic origin.

An account of the state of slavery in the peninsula, both domestic and agricultural

An account of the Abyssinian slaves on the western coast of the Peninsula, their numbers and the date of their transportation thither.

Are there any traces of a colony of Abyssinians in Central India, or among the Vellalers of the Carnatic?

An account of military tribes, the composition, organization, discipline and tactics of native armies; and any elucidation of military institutions, and the art of war under the different empires which have successively existed in India.

An account of the Parsees, their numbers, religion and literature.

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Some account of the secret association at Rameserum, which is said to be governed by laws much resembling those of Freemasonry.

Particulars of the education of dancers and singers, with any rules, written or oral, regarding these arts; the rights of property in female dancers; the castes into which their children are admitted, and their customs with regard to the purchase of children, especially of the weaver tribe.

An account of the Lobbies of the southern provinces of the Peninsula.

Information relative to the practice of burying alive, which exists in the provinces northwest of Madras.

An account of any races of mountaineers whose habits and customs differ from those of the inhabitants of the neighbouring plains.

Ceremonies and practices of the Pilgrims at the temples of Trivaloor and Paddapollam,in the Jageer, with specimens of articles presented as offerings at those temples.

ARCHITECTURE.

A translation or abstract of the *Silpa Sastra* and some exposition of Hindu architecture, including particulars of the building materials in use, especially the preparations of the various kinds of chunam and cement.

Details regarding the building of great architectural works, such as pagodas, forts, palaces, bridges, &c. with the dates of their erection.

The Pagodas of Triputty, Trincomalee, Chillumbrum, Canjipoorom, Seringham, and Rameserum, are particularly worthy of notice: and among the most remarkable forts are those of Ginjee, Vellore, Chandernagore, Seringapatam, Pamakonday, Trichinopoly, Dindigul, and Palamcottah, with the *Durgahs* or Hill Forts in the Baramahal, the Mysore, the province of Canara, &c. Many of these are supposed to be very ancient. The works of Ginjee may be instanced, which, with any particulars of the former governments of that place, would of itself form a subject of curious enquiry.

The Pagoda and town of *Shiva Samoodram*, near the falls of the Cavery, deserve particular description.

A drawing of the Bridge thrown over the Cavery at Seringapatam, by the Dewan Poorniah, and called the Wellesley bridge, with an account of the manner of its erection and its dimensions, would also be highly interesting.

The Hindu Province of Tanjore escaped entirely the ravages of Mahomedan fanaticism and intolerance, and all its institutions, religious and domestic, exist at this day, in their original state. An

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authentic account of the magnificent temples in the fortresses and towns of Tanjore, Combeconum, Myeveram, Trivalore, Manargoody and Andiarcoil, would be extremely valuable. The sculptures in the temple of Andiarcoil are particularly recommended to attion.

LANDED TENURES, AGRICULTURE, &c.

Notices of the ancient and modern Hindu systems of Agriculture, and of the apportionment of the produce of the soil.

History of the division of the produce of the soil between the cultivators of irrigated lands in the several provinces of the Peninsula; when this division was first established; its cause, the original rates of division, and the increase or decrease of these rates under different sovereigns or governments.

Copies and translations of all kinds of deeds and instruments for the transfer of property, with a notice of the countries and periods to which they refer.

To ascertain with respect to grants of land in general, whether the land itself is in any case bestowed by the grant, or only the landlord's share of the produce or revenue.

Is there any reason to think that tenures were established in the South of India, previous to the conquests by the Carnatic Sovereigns in the 13th, 14th, and 15th centuries, by the Princes of the Chola and Pandian dynasties, or can any connexion be traced from these Princes to the sovereigns of the Maleialum country. The name *Sheran,* stated to be prefixed to that of *Permal,* in the copper-plate grants to the christians in the 9th century, excites the idea of some connexion between the Chola, Sheran, and Pandian kings of the south.

A statement of the proportion of Mahommedan to Hindu cultivators in the several provinces.

The extent to which irrigation is carried and the works of art erected for this purpose, would, (with sketches of Sluices of Culingalahs) form an interesting subject of investigation. For example, an historical account of the Annicut on the river Cavery and of the first conversion of the waters of the Tambrapournie river in Tinnevelly, to purposes of irrigation.

Local products of the soil, and various manures in use.

Account of the culture of the different kinds of indigo, of sugar, rice and opium.

The culture of tobacco, and when first introduced into India; and of the pepper and betel vine.

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Description of timber woods with a collection of specimens.

ARTS AND MANUFACTURES.

An enquiry into the state of the arts in general, the reduction of ores, refining and working of metals, works in ivory, wood, pottery, silk, cotton, &c.

Descriptions of native processes for the preparation of various articles of domestic consumption. Their coloured powders; dyes; cosmetics; varnishes; gilding, real and imitative; and other ornamental works, which the Hindus so skilfully employ in the decoration of wooden idols, toys, &c.

Models, drawing and specimens of all kinds of implements, with written descriptions.

The rise and progress of navigation among the Arabs, and of the art of ship and boat building, as well in their ports, as in those of India. Models of Grabs, Donies, Masula boats, Catemarans, and Canoes, would materially illustrate this subject.

The construction of a musical band, and a description of the various musical instruments in use, with specimens.

The Hindu method of musical notation, with a history of their attainments in the science of music. Some of their most popular airs, as examples, would enhance the value of communications on this subject.

Account of the Gymnastic exercises of the Hindus and Mahommedans, their arms and warlike engines, offensive and defensive; their method of taking wild animals and game, and the instruments employed for these purposes.

NATURAL HISTORY.

In all its departments, still offers a wide field of researches in India. Many districts have been but superficially examined as to their animal, vegetable, and mineral productions; and even the varieties of the human race have not been sufficiently considered. The Nil Giri hills in the midst of our own territories, have been but partially examined by only one naturalist; and their ornithology is still totally unexplored.

The principal rivers will probably furnish many new species of fish, and the various methods of taking them, as well along the coast and in harbours, as in rivers, would form a good subject for investigation.

The method of conducting the several pearl fisheries; their extent and annual produce; form a branch of this enquiry.

The breeds of cattle in Guntoor and Guzerat, Mysore, and Vel-

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lore, and the cause of their exceeding so remarkably in size, those of Tanjore, Malabar and Canara.

An account of the various breeds of horses, both aboriginal and Arabian.

An account of the Shen Nai, or wild dog, accompanied by drawings or a skin. Does it attack the larger beasts of prey and hunt in packs?

It has been observed in the extensive Bamboo jungle on the western side of the Peninsula, that tracts of the forest have simulraneously died, leaving bare patches of many miles in extent, and that destructive irruptions of wild elephants into cultivated districts, have on some occasions been owing to this cause: Does this phœnomenon take place in other parts of India? does it happen to other trees as well as the bamboo? and to what cause is it to be attributed?

MISCELLANEOUS.

Account of Eastern Caravans, or overland communications between Europe and India, both in ancient and modern times.

Account of the former and present state of the Pamboo strait between the island of Rameserum and the main; with a statement of the causes which have obstructed its navigation by large vessels.

It is suggested that meteorological accounts be kept in all the Cutcheries of Collectors, with a view of deducing thence a general meteorological account of the Peninsula; and the annexed is recommended as the form under which such accounts should be registered.

It is requested that in any communicatians forwarded to the Society, the Native names may be written in the original character as well as in English.

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METEOROLOGICAL RDGISTER KEPT AT

ALTITUDE ABOVE SEA.
LAT.
LONG.

Year.	Month.	Day.	9½ A. M.				4½ P. M.				Mean.				Evap.	Rain.	Wind.	REMARKS.
			Bar.	Ther.	Hygr.	Diff.	Bar.	Ther.	Hygr.	Diff.	Bar.	Ther.	Hygr.	Diff.				

The above are the Maximum or Minimum hour of the Barometer both during the day and night.

It is of the greatest importance that the instruments used should be compared with some standard for which purpose Mr. Taylor, the Honorable Company's Astronomer has kindly offered to lend his aid to any gentleman who may wish to compare his with those made use of at Madras which have been compared with those used in Calcutta and are to be depended upon.

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MADRAS JOURNAL

OF

LITERATURE AND SCIENCE.

No. 2.—*January*, 1834.

1.—*Extract from the Memoir of the Survey of Travancore, compiled by Lieutenant Conner.*

(*Continued from the 7th Page of our last Number.*)

Than Travancore and Cochin, few parts of the Peninsula present so great variety in its population, there is some difference of features and shade of colour, but they are still less distinguished by their habits and appearance, than alienated by prejudice and institution of cast. There is of course some analogy of character, and their manners too has a considerable affinity to those of their eastern neighbours, but each have peculiarities in their habits of domestic life, that mark a discrimination, in some points a much greater diversity, than would be inferred from their vicinity.

Receding a short distance from the coast, the character of the population perhaps somewhat improves. The provincial divisions present some varieties. To the south, probably arising from the deteriorating mixture of Vellaulers, they display an obstinate refractoriness, that it is often as necessary to coerce as to conciliate ; approaching north, particularly throughout Cochin, this waywardness of disposition is succeeded by a mild and peaceable demeanor ; their simplicity of manners is infinitely less vitiated than in other parts, at least it has received but little alteration from an intercourse with foreigners ; with prejudices infinitely more insurmountable and unconnected by any interest or intercourse that could occasion community of sentiment, they assimilate to Europeans still less than any other natives, nor perhaps need we much regret their ignorance of them, as such association too often diminishes their respect, and taints their virtues without abating their prejudices. The interior is seldom visited by Europeans, and to this perhaps may be ascribed the ready attention which the traveller experiences, but the natives by

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no means seek his acquaintance; indeed they are shy of strangers and retained by their attachment to the soil (which amongst all ranks is no where so powerful. It may be that the requisites for the support or enjoyment of life are here more limited or less difficult of attainment) for ever within the limits of their own village or district, they know or care little for other countries, have no curiosity of adventure, and even an imperfect knowledge of their neighbours, whom they regard as inferior to them.

Generally speaking except the higher classes of Nairs, and the inhabitants of the most southern districts, the body of the population are of a more passive and docile temper than those of the other parts of the Peninsula, their composed deportment and languid gravity of disposition, is not easily heated beyond its usual temperature, and never hurried into that animated vehemence of vituperation, so common on the other coast on the most trifling occasions of dispute; but it is easier still to stimulate their passions than excite their industry; their listless habits, in which the possession of slaves enables them to indulge, renders them averse to active labour, and except the very lower classes, whom a pressing necessity alone urges to diligence, they rather enjoy their possessions in lazy indolence, than increase them, at least at the expense of personal effort. It must be admitted however that mendicity is rare except amongst the christian population, who in fact furnish nearly the whole amount, which presents a greater and more disgusting variety of decrepitude than can be well conceived. Crime is not common, perhaps the more serious offences are less frequent than in the neighbouring countries; if at distant intervals instances of atrocity do occur, they are mostly traceable to the Maupulays; even theft is comparatively rare, and altho' many of the lower classes are tempted by the facility of concealment and urgency of want, this vice is not particularly ascribable to them. Falsehood is the common stain of the native character, but the distance between promise and performance is particularly remarkable in Malliallum, at least this part of it. The inhabitants of which are characterized as perpetual liars, the charge tho' too general in its application, may not be entirely unfounded, but it must not be conceived inconsistent with the possession of many amiable qualities, though truth does not constitute one of them, and they may perhaps be considered as exercising many virtues as their neighbours, but not exactly of the same stamp, at least an abatement must be made on the score of continence which is by no means the most ready attribute of the community here. To mend their morals a more general diffiusion as well as improve-

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ment in the system of education is necessary; ethics at present forms no part of their studies, which rarely advance beyond the first elements of knowledge, and such limited accomplishments only belong to the superior classes, who however are susceptible of higher attainments, particularly the Nairs, who have a quick apprehension, are admirable accountants, and perform the operation of writing (leaves every where being substituted for paper) with a rapidity and adroitness quite peculiar to themselves. The language spoken differs in the southern parts where it is largely intermixed with the Tamool, but we do not here observe that mixture of tongues so common on the other coast. The inhabitants of this, never speak any but their own, nor does even their intercourse with Europeans tempt them to acquire their language. Circar schools, two in each district, have been established for the benefit of the community at large, but it would infinitely improve their efficiency were the number as well as the plan (tho' it must be confessed the natives are little disposed to excursive knowledge) on a more enlarged scale. The inferior ranks are wholly untaught, but an alleviation of their physical wants must precede any mental improvement.

They bear a general resemblance to the people of the other coast, but have a greater symmetry of person, a fairer complexion, more mild and agreeable features; nor do we ever see amongst them that shrewd over reaching cast of countenance, so common there; natural deformity is rarely met with, but some diversity of exterior is observable; allowing however for the difference, that coarser fare, greater exposure and severer labour will produce, a great family likeness is perceptible throughout, they have (particularly among the higher orders) an expressive, pleasing though not always fine physiognomy, generally a delicate formation of person, which is rather perhaps below than above the ordinary standard. The stature of the women is inferior to that of their neighbours, but their attractions rather condensed, than diminished, give them claim to a more than equal measure of perfection, particularly those of the Nairs, who have a soft fulness of form, and elegant but fragile contour, while a carriage singularly graceful, lends additional and dangerous allurements to their dusky charms. To their precosity must be ascribed their early decay, with them their is no intermediate space between the freshness of youth, and decrepitude of old age. Rank and cast experience here a degree of homage that in other parts of the Peninsula would neither be required nor given. In the presence of a superior, and each exacts the same observance

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that he pays, the Moondoo is removed from the head or shoulders, the hands united are raised for a moment, when the right is applied to the mouth, which is partly free from this polite barrier during the interview, or rather the laxity or rigour with which it is guarded depends on the relative ranks of the parties. This address would appear rather obsequious than respectful, but deserves not the charge of servility. Amongst the higher order of Nairs, an elegance, almost dignity of demeanour, natural and superior to acquisition is not uncommon.

Most of the superior classes substituting physical purity for more material virtues make frequent use of the bath, ablution is a necessary preliminary to meals, the superior orders practice endless subsidiary ones, but they are too fastidious in their notions of defilement, as they can scarcely leave their house, or be approached by any of the lower classes, without undergoing some supposed pollution, many of the very lowest ranks (whose name is an invective) so strongly feel the odious peculiarities attached to them that they fly on the approach of a superior ; contact with them is regarded as contagion, and with even the middling ones viewed only as a less deep stain. To avoid the communication of such a taint when delivering any article, they place it on the ground, putting a leaf under it and retire ; indeed to avoid contact all classes throw rather than hand what they may be desirous of giving ; it may be added that this feeling, so destructive of social intercourse, extends to the very lowest ranks, who view as a species of contamination the touch of those beneath them in precedence. The women have a profusion of dark hair, which they carelessly dispose in a knot on the top of the head, on the fore part of which the men wear a single lock, which arranged with artful foppery is an object of vanity with the young ; in every instance this internal vegetation is removed several times in the course of the year ; even the eye brows marked only by a thin line of hair share the denudation ; we could perhaps wish the retrenchment extended to the nails of the hands, particularly those of the right, which are regarded as becoming in proportion to their length.

If nudity be considered as provoking sensuality, the costume of the people may afford some excuse for that ascribed to them, its simplicity would denote its antiquity. The various classes have little diversity of garment, nor indeed is any seen throughout the country ; even foreigners (inhabitants of the eastern province &c.) assuming the vesture of it, which requires but few cloths, consisting chiefly of a cloth (known by the term Moondoo) passed round the waist and

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reaching to the knees (amongst the more wealthy classes, it extends to the ancles) forms a short petticoat or kilt, a handkerchief thrown loosely over the head and covering the shoulders form a sort of cowl, this is substituted for a turband, it is occasionally tied though commonly left flowing, but in either case affords no protection against the sun, their chuttries (and they consider them an indispensable part of their equipment) are supposed sufficiently to answer this purpose, indeed some of their ordinances direct that the head and feet shall always remain uncovered, a precept very generally observed; in the latter instance, the colour of the cloth worn is slightly tinged, with indigo, its texture rather than quantity differs with the ability of the weaver: it is often or generally so transparent as to shade rather than conceal the outline. The female costume is somewhat similar, but (inverting the usual order of things) has a more masculine appearance, a portion of the cloth, forming the short petticoat being passed between the legs and fixed in the girdle behind; this scanty vesture reaching only to the knees, the upper part of the person is permitted to remain uncovered, as a handkerchief thrown carelessly over the head and bosom is worn with no view to concealment, indeed on ordinary occasions entirely dispensed with, the eye is at first startled with so much nudity, perhaps arrested by its novelty, to which however it becomes readily reconciled, but it is impossible not to admire the unsuspecting simplicity, that endures the gaze of surprize insensible of being its object. Their costume it must be confessed leaves more to engage the attention, than pique the curiosity, but the display is as often productive of disgust as admiration, a greater fastidiousness might perhaps desire that it allowed less scope for either; their drapery however scanty is sometimes arranged with singular grace, if we could desire its folds somewhat ampler, a wish for their superior comfort must have a large share in exciting the sentiments. The children go naked till the fifth or sixth year, and most of the lower classes it may be said are almost always so, as the little rag that decency requires can scarcely be called cloathing; amongst half the population the wardrobe of an individual will not exceed the value, if it reaches it, of two Rupees, and thrice that amount would purchase a handsome suit; the comparative wealth or poverty of the different classes is not easily distinguishable* in their dress, nor do they display much taste for splendour, in their ornaments, which are rarely increased in

* A few marks carelessly arranged and made with the powders of sandal substitutes the intricate hieroglyphics, that on the other coast seem to denote cast.

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number or value, they are generally limited to a silver pen fixed to the waist, a chain of the same metal forms a girdle, to which seals or keys are attached, the fingers are sometimes loaded with rings each having several ; a knife six or eight inches long, the hilt of which is carved, invariably accompanies the pen, this is an indispensable article performing all sorts of offices, even the lower classes are never seen without one stuck in the girdle. The female ornaments are more numerous, though by no means of that complex character worn by those of the neighbouring countries, a perverted taste distends the lobe of the ear to a most extravagant size, it frequently reaching to the top of the shoulder, the appertures thus formed are filled by ponderous pendants of ivory or ebony, or by the leaf of the palmyra rolled into a circular form, they occasionally lavish much of their finery on the neck, which is sometimes observed encompassed by a collar or necklace of gold, from which a few trinkets are suspended, but the more general ornament is the Tally, which is merely a thin cotton cord, to which is affixed a small gold ornament; amongst the wealthier classes a single bracelet of the above metal is occasionally observed, this distinction is only assumed by the other sex when conferred by the chief.

Subsistence is almost entirely derived from agricultural labours, nor do the temptations of commerce attract even the wealthier classes from rural pursuits, which are most esteemed, the handicraft professions being, it has been seen, abandoned to the very lower ranks, nor does the practice of them always secure a certain livelihood, though that might be earned without the interrupted application of industry, might be concluded from the abstemious character of their diet, even that of the higher ranks knows but few delicacies, those not at all intelligible to our luxury are even disregarded by their neighbours, who decry the extreme simplicity of their taste. Conjee or Rice soup (a leaf invariably performing the office of a spoon) forms the first meal, the second consists of Rice (dry grains being very little used) their condiments are of the most ordinary kind. The pulp of the mango reduced to a paste and dried, having been spread on mats for this purpose, is amongst the best. The ordinary oil is a common substitute for ghee, but little animal food is consumed in the interior, those living near the sea in a great measure draw their support from that element. The cocoanut in all its shapes constitutes one of the chief articles of subsistence, and the jack, plantain, and mango, are here articles of the first necessity rather than luxuries—the kernel of the latter is

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ground into flour, rice constitute the food of the lower classes for but a portion of the year, their scanty store exhausted, great variety of the yam, cultivated tuberous roots, and sago produced from a species of the palm, affords a substitute, many of the hill tribes subsist almost entirely on arrow root, and the kernels of the eendu, which having been boiled and steeped in a stream for two or three days, operations necessary to extract their poisonous qualities, are ground into flour, but the mountaineers are not alone reduced to this meagre fare, that of all the lower classes is frequently precarious, often, unwholesome and scanty; an indiscriminate appetite makes wild roots of every kind, particularly of aquatic plants, for which the Polayen is seen searching up to his neck the waters of the lake, lizards, mice, &c. contribute to supply deficiencies, nor will much be rejected by a taste to which the alligator is acceptable, many of the most inferior classes being often reduced to this revolting fare. The expence of a Nair family in tolerable circumstances will not exceed ten or twelve Rupees a month, of a Showan family probably not more than a moiety of that sum, which with a Polayen may still be reduced by half: the daily produce is generally consumed at home, butter milk diluted with water and rendered very acid by an infusion of leaves, partly aromatic, being the ordinary beverage; but they do not confine themselves entirely to so primative a one, most classes (nor have the bramins quite escaped the imputation) indulge in the use of spirits, the temptation is great as it is so easily indulged, the quantity purchased for a few copper coins being sufficient to intoxicate, like all other natives their potations are unsocial, the harsh spirit sufficient for the purposes of their course intemperance being more calculated to produce oblivion rather than conviviality. The better ranks too, are addicted to the use of soporifics (particularly opium) a vice by no means uncommon even amongst the christians, whose pastors are not proof against its allurements; but the placid intoxication it produces is not followed by ferocity, nor do their orgies however intemperate ever end in riot. Of their domestic accomodations little can be said, it has been seen that with the better ranks their houses are objects of vanity and care, feelings that do not extend to their furniture, rude couches, and some brass culinary and household utensils appearing the only articles meriting that designation; a singular simplicity that makes every thing answer every purpose, converts the bark of the Arreka to many domestic uses.*

* Or rather the spatha or leathery covering, that encloses the fruit in its early state.

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On the whole though we cannot attach any great value to the standard of their improvement, or characterize the people as deserving the reputation of great industry or pure morals, yet they are superior to their neighbours in many things that exalt one class above another; it must nevertheless be allowed that the relative condition of master and servants is here more unfavorably contrasted, and that with equal or greater resources than them, the condition of the lower classes is generally inferior to the corresponding ranks of the neighbouring countries, and their indigence is rendered more striking by the comparative affluence of the higher orders, who agreeable to their measure of it, have a considerable share of enjoyment, their distinction might perhaps be partly traced to an apathetical disposition, that renders them indifferent to higher enjoyments, but perhaps there would be more justice in ascribing it to the tyranny of cast, an indellible line here separates the different ranks, in no part of India are those unnatural divisions so strongly marked, so anxiously regarded, or their degrading or enobling association in such activity.* The enumeration of fifty two casts shews the divided character of the population, but the scale of precedency is still more minutely graduated, each cast being split into various subdivisions, which though serving to divide, as well as distinguish it would be difficult to follow through all their intricacies. It is however observed that the feelings they involve, have been somewhat assuaged. The bramin less deified, permits the Nair to approach him, while he in turn amongst other concessions, submits to the christian being seated in his presence, nor dare he now sacrifice the Polayen to his caprice, or indignation, but the implacability of those prejudices must be infinitely more relaxed, before the lower classes, the most valuable part of the population, and on whom depends the whole productive industry of the country, can rise above their present state of debasement. Their condition (though improved and improving) excites our pity, often our disgust, but above all the situation of the Prœdial slaves most deserves commisseration, as at once amongst the most useful, suffering a wretchedness scarcely susceptible of aggravation.

Bramins—Though divided by cast the population have a great similarity of manners, but formed of such a medley, an outline of its component parts may be desirable. The Bramins to the south of Quilon are called Poties,† in the more northern parts

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* The number of paces to which each may approach the other, is minutely defined, a step beyond entails pollution and punishment.

† They will be spoken of generally under the latter denomination.

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Nomboories, a denomination confined to those of Suddikerala.* The Alwanchayree Tambrakal is viewed as the chief of the Nomboories, though he possesses no distinct jurisdiction over them. In the scale of precedency the Adhienmars, or the descendants of eight principal families who once ruled Kerala, hold the first place. Pad is a title bestowed on superior rank, sanctity, or learning. Those who have performed the Ootram are termed Akkaterypad; skill in the offices of priesthood, obtains the appellation of Buttaderypad, while those who have achieved the sacrifice of the Yoigam, merit the title of Chomadreepad, and enjoy the privilege of wearing large gold ear-rings, those having controul in temples are called Muttumadda Putter, if Poties, Tundreeadhein. The learned in the Vaidans, Sandies, or officiating priests, there are Sunneeasees of various appellations, ranks, and shades of difference, though such a life does not here imply the observance of any very inconvenient austerities. There is too considerable distinction of property, but the Nomboories are not split into sects, each deity has an equal share in their homage, nor do their opinions or practice, except in some frivolous observances, differ from the bramins of the other coast, they are said to be lax in the performance of their religious duties, at least less scrupulous than formerly, they deplore but don't amend this degeneracy of faith and zeal; which the Putters over whom they claim a superiority, (denied by them) ascribe to the malediction of Sancara Atchayrai. They have no Agrarams, nor do they ever live segregated, loving retirement, they court the seclusion afforded by the vallies of the interior. Their Illums, large and commodious, canopied in foliage, and seated on the bank of some river or stream, breathe an air of undisturbed repose, and evinces a considerable share of affluence. Those not possessing property, it will have been seen, derive an ample subsistence from the religious establishments: this they receive as a right not as charity. Pursee Rama, having conferred on the Nomboories, all temporal as well as spiritual authority, they still profess to claim the sole sovereignty of the soil, though their possessions have been considerably reduced. At an earlier period they held unbounded sway over the minds of the people, nor has this pernicious influence yet entirely ceased, but originating in the degradation of the lower orders it must decline as they improve. The Nairs are still in some measure their slaves,† at least when holding or superintending their

* The name has some reference to their having been (as the legend says) emigrants.

† In addressing the bramins they style themselves so, and are called generally by them Adhienmars or slaves.

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lands, but it is an easy servitude in which they are held by interest and spell of cast, rather than law, somewhat aristocritical in their notions, they are shy and rather avoid than seek intercourse with strangers, but the reserve of ceremony once worn away their manners are courteous, but chargeable with the refinements of dissimulation and guile, they cannot be regarded as forming any index to their disposition. They have no influence in civil affairs, and with some trifling exceptions are not engaged in them, but their sanctity not appearing offended by the profane duties of public life, this abstinence cannot be ascribed to a voluntary forbearance. Prejudice prevents them from engaging in any useful profession, some are employed in the performance of religious offices, but the greatest part indulge in indolent repose, and if an easy voluptuous life with nothing to ruffle its uniformity be happiness, they enjoy a large share of it, it is not even interrupted by the cultivation of literature, their erudition rarely exceeds a very imperfect knowledge of sanscrit, they however speak a pure language; of their recreations it is difficult to speak, the vain science of divination serves sometimes to divert their lassitude. Though holding familiar intercourse with other bramins, they will not intermarry with them, and scrupulous as to their alliances decline extending them even to the Poties. Polygamy is nearly unknown, the eldest son of a Nomboorie family alone marries: a restriction imposed probably to prevent the diminution of dignity by the increase of numbers; or that of wealth by too minute divisions of property, should the eldest son have no issue the second marries and so on till the object be attained. In consequence of this custom, the females often enter into wedlock at a very advanced age, or die in a state of celebacy, but so tenacious are they of their observances that the corpse undergoes all the ceremonies of marriage; an Arria Putter performing the part of bridegroom in those posthumous nuptials. Numerous daughters are considered as a misfortune, their dower and other necessary expenditure consuming a large share of the family property. In the selection of a wife, female mediation directs the choice as the veil of concealment is not removed till after marriage, when it is too late to profit by the discovery; but cupidity would seem the only passion necessary to be gratified, as a stipulation on the score of dower always forms the most important article of the treaty, it is unnecessary to repeat the detail of céremonies that follow its ratification, and equally so to describe those of their obsequies. Voluntary cre-

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mation of the widow on the funeral pile seems unknown here,* at least they do not now aspire to the honor of this superstitious, sanguinary, but generous devotion, for which is substituted the easier ceremony of consuming the Tally. Nothing can exceed the precautions taken by the Nomboories, to seclude their women from the gaze of profane eyes, guarded with more than moslim jealousy, their nearest relations are interdicted communication: even brothers and sisters are separated in early age. The women are known by no other term than Unterjennem or Agotamar, which may be translated the concealed, their seclusion is more strict than that of a cloister, if venturing to some neighbouring temple, rolled in cloth, fortified by a large umbrella, and preceded by a female servant, who commands the absence of all intruders, they escape the view of the curious. Where chastity is so strictly guarded, a breach of it is not easy, instances of frailty however are not unknown. If the crime be committed with a man of a lower rank, both offenders escheating to the Circar, are sold as slaves to some of the inferior classes, in earlier times it was visited by still further severities. But the indignation it excites is in no measure extended to similar transgressions of the other sex, a ready casuistry reconciles them to the practice of forming connections with the Nair women, a Nomboorie being supposed to honor the family from which he chooses a paramour, finds one in every house. The Nomboories are comparatively fair, well formed, and their women said to be distinguished by their beauty,—their costume except in being somewhat less scanty differs in nothing from that of the Nairs, the privilege of wearing gold bracelets is the only peculiarity in their ornaments, their cleanliness deserves commendation, and might be ranked as almost a secondary virtue, did not much of it arise from superstition.

Numbuddy, Mootoodda, Aghapaud, Ovel, and Eelieadoo are inferior casts of Nomboories, each forming different ranks; they are the descendants of bramins who were degraded from the station they once held for various transgressions at some remote date; tradition has handed down the story of their disgrace, but it is unnecessary to repeat the tale.

Of Foreign Bramins—The prospect of gain and the high veneration experienced by the bramin cast in Travancore, attracts crowds from the surrounding countries. The Putters trace the date of their first emigrations to the period of the earliest Kshetry Princes,

* Although it would appear very common on the other side of the Ghauts as is seen, in the number of rude monuments commemorating this event in Shencottah.

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when their numbers were few, their reputation high, the increase of one, has proportionally deteriorated the other, but the influence of superstition still enables them to hold a place in opinion, that their own equivocal reputation could never deserve. It is unnecessary to minutely enumerate the various classes of foreign bramins that resort here. The Imbrantries from Toolonaad, (Canara) and Putters from the Tirnavelly, Tanjore, Coimbetoor are the most numerous. The latter are collected under Summooghum Muddum which serve as a point of union; they are seventeen in number, and scattered throughout the country, each individual attaches himself to one thus forming little communities or corporations, the Muddum has generally some funds of its own, but all belonging to contribute to its support, and the property of any of its members who may die without heir or intestate devolves to it. Some of the foreign bramins remain permanently, but their abode in most cases is temporary, as they believe that dying in Malliallum exposes them to the risk of transmigrating in the body of an ass; a fate averted by a timely retreat. They are chiefly engaged in the pursuits of commerce, which leads them frequently during their residence to visit the other coast; they traverse all parts of the interior finding a subsistence at every Pagoda, or Ootuperra, and this indulgence they are careful liberally to avail themselves of, the object of all is to accumulate a certain property with which to retire to their families by whom they are rarely accompanied, they are indefatigable in the pursuit of this end, which their singular perseverance and economy generally enables them to accomplish. Ambitious of office they often attain it, but are generally seen performing some of the minor duties of the temples, often in still meaner occupations, frequently of a secular kind, but nearly half are merchants, trading in cloth (of which they once had the exclusive privilege) and grain. The Imbrantrie has some amiable qualities, and is by no means remarkable for the wily duplicity that distinguishes the Putter, but it is superfluous to draw the character of this class of men; emigration has not enlarged the sphere of their virtues, and they may be considered as ranking greatly below the Nomboories in every estimable quality.

Kshetries—The introduction of the Kshetries into Malliallum appears to have originated with the dynasty of Sharren Permaul, the most eminent are called Tumbeemars, or Raujah Coomar Tevoomapaud, denotes those of lesser dignity, there is some difference in point of rank and privilege, the Saumunder class though belonging to the Kshetrie tribe are of secondary estimation. It is superfluous to detail

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their minute peculiarities, their general character and customs so much resemble those of the Nairs. As with them the manner in which the race is continued gives a wide scope to the wandering sensibilities of both sexes. The choice of the female is confined to the Nomboorie tribe, but restricted in quality not quantity, a fickleness that readily changes its object finds abundant room for selection. The offspring of this connection belong to the Kshetrie cast, the males are debarred forming any union with the women of their own tribe, but such being considered a high distinction amongst those of the first rank, of Nairs, bewildered amidst profusion, the Kshetrie only experience the embarrassment attended on so wide a choice. The progeny springing from such an union, ranks with the Saumunder cast. The Kshetrie abstain from animal food, aspire to consideration from the number and variety of their ablutions, and emulate the bramins in their theoretical piety, probably practical vice; which however is partly redeemed by the presence of some virtues; most of the petty chiefs are of this tribe, but with few exceptions none belonging to it possesses either authority or wealth.

Umblawassies—The Umblawassies hold a rank immediately below the bramins, to which tribe it is said they once belonged, they still continue with the exception of the Varriar, and Mauroyen to wear the sacerdotal insignia. The Umblawassies, though numbers of them are engaged in agricultural pursuits, are generally dedicated to the service of the temples, (in fact they are the Deeadassee of the other coast, but much more numerous than the correspondent class) they differ in nothing from the Nairs except that the cast is kept up, as with the Kshetries through the intervention of bramin's assistance. The women of it being solely devoted to that race, while the offspring of an Umblawassie by a Nair woman becomes a Shooder. They are of various denominations, the Shakkaiur performs as dancer in the Koothu Umbalums of the Pagoda; the employment of Pooshagum consists in collecting flowers to decorate the Idol, the deities of the Poosharodu are of an inferior nature. The Varriar, Nangiaar, and Mauroyen, compose the chief musicians belonging to the Pagodas; sound the chank in announcing the approach of Nomboorie Saniassee; profess the science of astrology &c. The last mentioned holds the lowest rank, to his other vocations adding the performance of some menial offices about the dead.

Nairs—The Nairs may be considered as constituting the soul of the population, they are all of the Shooder tribe, but split into various classes. The Velloymah hold the first rank, they are only seen

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in the more northern parts, where the Keereeathee class are also more generally found. The Illacurra and the three succeeding ranks predominate throughout Travancore, the above term signifies one belonging to the house of a Nomboorie, and may probably denote the state of dependance in which they were retained by the bramins; while that of Shroobacurra applies more particularly to those who were held in vassalage by the chiefs. Paudamungalum, and Tamulpaudum, (appellations denoting those who were under the controul of temples) constitute the fifth and sixth classes. Pulicham are the bearers of the Nomboories or higher ranks, but performing this office for no others. The Shacouller, or Vellacaudoo, are those following the profession of oilmongers. The Poolicay, or Andem Nairs, are potters. Vellathudum or Errinkolay, Purriarrie or Vellakathura, are washermen, and barbers, of the bramins, and Nairs, but will only act as such for them. Aggatuchurnaver, are those who perform some menial offices for the former. Yeddachayray Nair, or Yerma Shaudra, are cowherds. Cullatu Nair, or Velloor Nair, are empiricks. Yahbary, merchants. Oodatoo Nair, boatmen, Attycoorchy, or Sideear, a low cast who perform the necessary offices about the dead. There are four principal classes of artificers, silver smiths, braziers, black smiths, carpenters, who constitute (tho' separate in themselves) a distinct body, and are the lowest rank of (if they can be included amongst) Shuders. Many minor subdivisions might be added; each of the above orders are still further graduated and discriminated by various shades. It must be observed, however, that those belonging to each particular class, are by no means confined to the vocation, some of them would seem to point out, and the profession must be generally considered as rather serving to denote a distinct rank than indicating an occupation; this remark it will be seen is alike applicable to the several divisions of artists. The males will eat (and with them the circumstance is important) with those belonging to their own cast, though somewhat lower than them in rank, but they do not carry their condescension very far; the females are quite inexorable on this point, and in many instances even decline using the vessel that has been touched by a person of inferior* (however slight the difference) order.

*Their fastidiousness is occasionally inconsistent. The bramins receiving as food a confection made by the Concanies, as the Nairs do a sweetmeat made by the christians.

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The character* of the Nair, in some points rises above that of his neighbours, but it is made up ot anomalies, a highmindedness, sensibly alive to personal insult, is united to an insidious duplicity, a rapacity difficult to satisfy or satiate, a more than equivocal integrity at least when in office, and perhaps only then, as they exhibit no particular distrust to each other, and an ingenuity of falsehood that can affirm or deny with equal facility; but there are not wanting qualities to modify and soften many of those darker shades; in their intercourse with each other they are mild, perhaps amiable, nor are they by any means strangers to domestic or social virtues. They possess a considerable share of intelligence, though probably they have more subtilty than ability in business. To their equals their demeanour is courteous, the degradation of the lower orders will account for, and partially extenuate their arrogance towards them, but if haughty, the feeling at least is free from any mixture of cruelty. Though having no sentiments of martial independence, (indeed their virtues as well as vices have a tincture of effeminacy) they have the reputation of being brave, but their courage is of the usual Hindoo kind, rather apathetical than active. Life supported with patience is quitted without regret, and when forfeited to offended laws, is resigned with an unequalled degree of stoicism. Though capable of exertions, they are prone to indolence, a listless disposition satisfied with indigent care, supplying no stimulus for exertion, as in other parts of Malliallum; they must gradually give way at least in point of property, before the superior industry of some of the inferior ranks. All the servants of Government, are taken from this class, they are particularly solicitous of office, and it has been seen how well disposed they are to abuse it, in those cases, they are more profligate in acquisition, than lavish in consumption, and perhaps may generally deserve the character rather of economy than prodigality, except those on such occasions almost all live on their lands, the latter classes have the enjoyment of much leisure. If the business of agriculture require their attendance, their employment is more of inspection than aid.

The higher orders of Nairs, are known under the collective term of Maudumby, or Prubbukamars, designations under which are comprised various others; the most common are Kurtaos, Elluiddum, Kymulla, Kurupu, Mainawen, Pulle (the two latter are also used as professional offices) in which there is a nice gradation of

* It bears except in the particular that requires the fidelity of the men very remarkable resemblance to that given of the Natchiez, a South American tribe.

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pre-eminence, those denominations were originally allied to some authority, and still command respect, but serve now to distinguish rank, rather than influence or property, with regard to which they are pretty much on a level, they are hereditary, were often bestowed on merit, but more frequently obtained by purchase, they conferred some privileges amongst them, that of having a parasol borne over the head,* wearing a golden bracelet, being preceded by a particular kind of lamp, or having the writing instruments worn at the waist, made of gold, those were also ensigns of office, but a wider latitude being now allowed to their assumption, they have of course lost much of their value. Proprietors of land are always known by the title belonging to their estate, or rather its designation is invariably used as a prenomen.

The state of society on part of this coast is in some measure peculiar to it, at least the economy of a Nair family differs from that of almost any other race of Hindoos. The uncle, or as he is styled Taruwuttee Kurnaven, is the head of it, his eldest sister the mistress. A family of brothers and sisters generally live together, and in most instances with a degree of harmony that might serve for imitation. The sons of the latter are invariably the heirs, and nepotism substitutes the place of parental attachment. The bastardy of the children, and ascendency of the women, that in Malabar so offended the prejudices, and shocked the morality of the Sultan, would have here given equal room for his reprehension. They are less passive, have more influence in society than most other parts of India, and are infinitely less restrained in their intercourse with it, they have a quick understanding, are said to display great aptitude in acquirement, but a capability of reading the Ramayen, is in most instances the summit of their attainments, they are often rich, frequently possess landed property, the details of which they manage with great ability. The commerce of the sex, is regulated by a singular system whose cause is effaced in the antiquity that has sanctioned the practice. Its real nature and remote consequences is too intricate a labyrinth to be readily developed, but the subject is sufficiently curious to deserve mention, and such must be received as the reason of its introduction. The young Nair girl, at a very early age, undergoes the form of having the Tally tied, this with the wealthy is an expensive ceremony, (a crowd of guests being feasted for some days with rural

* The use of this article is common and necessary, but the honor consists in its being carried. Every Nair, of respectability is seen followed by a boy who performs this office and also bears his brass vessel and beetle apparatus.

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profusion) but indispensable with all, he who personates the bridegroom receives a certain recompense, any of equal or superior rank are eligible, but a number and variety of minute combinations† of which the detail may be postponed are required in the selection. The astrologer decides those points, and fixes the auspicious moment for performance; receiving the Tally though a requisite, is a mere form, and conveys no claim to a more intimate connection, altho' on the death of either, the survivor practises those ceremonies that would be observed, were the union of a more material nature. Such is the premature ripeness of the climate, that at the age of eleven or twelve years a girl has reached maturity, the moment of its attainment is announced to the neighbourhood by a loud chorus of the women, who have collected to celebrate the occasion, a rude minstrelsy, repeated at intervals for several successive days, suitors early present themselves, and the acceptation of a lover is signified by receiving from him a Moondoo, some brass utensils and other furniture, also annually clothes, oil, &c. &c. amounting in ordinary cases to about forty or fifty Rupees, four times that sum would be a handsome establishment, which scarcely five in a hundred could afford, and among the lower classes half of it may be considered near the medium. This union is termed Vissivassum, a great misnomer, as it in no measure binds either party, and perhaps we should overrate their morality in supposing that one such union in ten continued for life, and where the connection is of such stability, it is a matter of understanding more than enactment. The mistress of a Nair, generally resides in her brother's house, having no authority in that of her paramour, by whom she is visited at intervals, but he in the mean time, must not be too scrupulous in guarding her against the encroachments of interloping competitors. Hearts equally capacious as susceptible, are not always engrossed by one lover, if too fastidious in admitting an associate, he is discarded, as the female enjoys in some measure the power of repudiating, a tempting prerogative, that the levity with which they bestow or transfer their favors, would prove was too often exercised, but prompted by grosser seductions, and indefatigable in their loves, they are represented as inviting or enduring from mercinary motives, an endless succession of paramours, but the imputation appears too exclusive in its obloquy, as they would seem to be the sport of the same caprice, with which they are re-

† The parties must have been born under the same Planet. The astrologer with the high orders of the village Register with careful accuracy the moment of birth.

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proached. Held by so loose a tenure, it might be supposed their frailties would not create much domestic confusion, but jealousy is by no means unknown, that amiable passion producing even here tragical events, although it must be allowed they do not often permit it to trouble their harmony. Chastity not necessary to reputation is but lightly valued; its infraction is regarded more as a failing than a fault, and only as a crime, when the intercourse has been beyond the pale of their own particular cast, both sexes, must confine their amours within this limit, the severest penalties being announced against its infringements; except as has been seen in instances of the higher classes, who on this occasion readily sacrifice their scruples; cast sanctifies every immorality. The bramins of all descriptions are courted with a caressing homage, the most obdurate virtue could scarcely resist, nor do previous engagements oppose any barriers to their success, as the Nair compelled to resign his mistress to more holy embraces, retires on their approach, not venturing however, strong his claim, or forcible his attachment, to interpose between their enjoyments.

This system though more particularly belonging to the manners of the Nairs, serves as a precedent in some measure to most of the other classes, at least marriage in the ordinary acceptation of the term, is nearly unknown amongst them ; their union is regulated by the inclination of the parties, and a mistaken choice soon rectified, leaves Hymen here no scope for the exercise of his malice. Amongst some of the classes of Shewans it is not uncommon for the female, to confine her favors to the brothers of a family; this practice which is regarded as strengthening the ties of fraternity, is also common amongst the cast of Artisans, in the southern parts it is however decryed, by the superior orders, whose practice it may have been observed, is of a still more reprehensible complexion, indeed they, but particularly the bramins, are represented as displaying an ingenuity of licentiousness difficult to relate, or amplify, the lower classes, cooled by poverty into comparative continence, are in some measure shielded from the contagion of their profligate example, but the intercourse amongst all ranks, is too promiscuous, and the feeling that leads to it (here more an appetite than a passion) less restrained than in the neighbouring countries is productive of great irregularities, but it is at least a decorous vice, that never obtrudes itself on the observation, and is by no means accompanied by any corresponding corruption of manners, however repugnant to our ideas of propriety there are not wanting circumstances of extenuation,

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nor should we be too readily disposed severely to arraign their immoralities, at least our reprobation will be mitigated by knowing that they are rather ascribable to the institutions, than any particular vice of the people. The Nair women cannot be said to be prolific, although it has been seen that the chance is not confined to one. On the birth of a child, if a boy, the same musical celebration that has been noticed is repeated, the enumeration of the various subsequent ceremonies, and those observed on particular occasions during its early years may be postponed. The uncle charges himself with their performance, he alone is regarded as protector of his sister's progeny. The father rarely contributes to their support, shares but little of their regard, and if known is soon forgotten, the mother however enjoys a more than ordinary share of veneration and influence. The Nair should burn their dead, but when poor they are necessitated to bury them, the corpse or ashes are always entombed within the garden, south of, but contiguous to the house; they do not exhibit that scenick sorrow displayed by their eastern neighbours, but if their grief is less unruly, its sobriety must not be ascribed to any coldness of domestic affection; it were tedious as unnecessary further to pursue the detail of their other customs and ceremonies, which only differ in some minute particulars from those common to the other portions of the population.

Various Classes of Shooders of the race common to the other Coast—It will be seen that the Paundee Shooders, (for such is their general designation) constitute a large portion of the population, indeed they may be considered as forming an original portion of the permanent inhabitants of Shenkotta, and the more southern districts, but those found in the more southern parts of the country, contribute greatly to swell their amount, in the latter instance they are chiefly emigrants, (or their descendants) from the eastern coast.—Numbers possess lands and permanently remain, as indeed do all that can obtain a livelihood, a large portion are seen as traders, artificers, peons, or servants &c. &c. The character of this class is too familiarly known to require here any illustration. Those composing it retain here all their ancient habits, and continue to form a distinct body.

Mussulmen—As do the few Pautan Mussulmen found in the country; they chiefly reside in the southern districts, and are for the most part the descendants of a body of Pautan sepoys, that swelled the military rabble retained by the latter princes of Travancore;

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rather disposed to arms, than arts, a more peaceful rule has reduced them to a considerable degree of indigence.

Lubbbees—The Jona, Mapulay or Lubbees, inferior classes of Mahomedans, constitute a more important and valuable part of the population, the former nearly double in point of number, are found generally in the vicinity of the coast, the latter of whom numbers are emigrant from Paundy are more in the interior. Many of the last class lead a sort of migratory life, sharing their residence between this and the other coast, with which their mercantile habits lead them to keep up a constant intercourse. The Jona Mapulay, (or as they are known in the southern parts Maiters) though of foreign lineage being descended from the first Arabs, whom commerce attracted to Malliallum, must be considered as more particularly belonging to it. Maslims in creed, they are almost Hindoos in person, and in point of character unite many, nearly all the vices of both. To the violence that too often characterizes the professors of their faith, they add a patient inveteracy and dissimulation, ready to conceal, prompt to execute its purpose. They are much disposed to traffic, but not averse to agriculture, are intelligent, indefatigable, unscrupulous, possess some wealth, have considerable landed property, and are gradually rising on the supineness of the other classes. Stubborn and turbulent, they require to be held with a strong hand, but though troublesome, their superior perseverance in industry renders them productive subjects.

Concanies—Which may also be said of the Concanies, who have all their habits of unwearied diligence without any of their vices. This class came originally from Goa, having fled on the conquest of that place, first to Callicut, thence here, where they found a toleration denied them by the bigotry of the Portuguese, and escaped the rapacity of the Zamorine. They possess some lands, but are devoted to commerce in all its shapes, and deserve the merit of at least a very tolerable share of integrity and fair dealing. A series of centuries has in no measure altered their character, or diminished the force of the institution. They are divided into three classes, the two first are separated only by some trifling distinctions, the latter the Jeedeenmars are the servants or slaves of both.

Christians—The origin of those ancient believers, who appear to have existed from the earliest ages of the church, is a subject, that might deserve enquiry ; and the singularity of so large a population of christians unadulterated by proselytism, is sufficient to attract and fix the attention, but so much is already known, or rather so

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many conjectures already offered regarding them, that little of novelty can be added; however curious a very minute investigation would necessarily be difficult, as the people know but little of their own history, and possess few documents that could illustrate it. Agreeably to the loose tradition, that still holds amongst the Nazarines, christianity owes its introduction into this part of the Peninsula to the Apostle Saint Thomas, who entered Malliallum in 52 A. D. He established seven churches, ordained two persons of consideration from Nomboorie families, and took other measures to promote the practice of the divine doctrines he preached; returning towards the eastern coast, from this successful mission, he underwent the last honors of christianity. The martyrdom of the Apostle first relaxed, and then almost extinguished, the zeal of his converts, who rapidly sunk into their old superstitions, their numbers and hopes were after a lapse of nearly two centuries reduced to eight families. At this eventful period A. D, 345 the Patriarchs of Antioch, who exercised a nominal sway over this distant congregation, despatched under the guidance of Kennai Thomay, a wealthy merchant, a bishop, some clergymen; and four hundred and seventy two christian families to its relief; they were viewed with kindness by the reigning prince Sharum Permaul, who established them at Kodungaloor, readily protected their belief, and conferred on them some valuable immunities, and honorary privileges. So seasonable a succour raised the drooping spirits of the remnants of the faithful, thus patronized they rapidly increased in power and number. Antioch supplied an uninterrupted succession of bishops, who governed in spiritual concerns, till the arrival of the Portuguese in 1498. This people, who without the excuse, emulated the fanaticism of the early Mahomedans, tried every means of intimidation and persuasion to restore those heretics to the true faith, when their eloquence failed, force carried the necessary conviction, and the synod of Uddiumpayroor, under the guidance of A Lexis de Menzes, Archbishop of Goa, dictated the faith of the Syrians. The union of the churches continued from 1598 to 1653 when it was dissolved: an event partly hastened by the violence of the Portuguese to their unwilling converts, who no longer able to endure such a domination, vindicated the ancient creed, assembled a council at Aullungaad, and elevated an archdeacon (a descendant of one of the earliest ones consecrated by Saint Thomas) to the dignity of bishop. We shall not be surprised at the Syrians revolting from a faith that had been imposed by violence, but it is curious that amidst the persecutions to which they were subject, we never find

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them rising above remonstrance. The largest body of the Syrians however still remained attached to their new faith, nor was the discord that reigned at this period amongst the Syrian pastors, calculated to reclaim the remainder of the apostate flock, now so completely alienated that it seems most improbable they will ever return to their ancient belief. The people however are of a temper that might without much difficulty, be brought to acquiesce in the re-union, but their priests who view the most distant approach to it with alarm, would oppose with all their influence such a reformation.* A Code drawn up by the Syrians in 985 A. D. still continues to regulate the religious affairs of the Syrians, which their Metropolitan superintends. The connection with Antioch having ceased, this dignity has become heriditary, the nephew succeeds, celebacy being a necessary observance. The vicar of Veerapolly, or rather vicar general de propoganda fide at Rome, holds jurisdiction over a part of the Romo Syrian and Latin christians, another portion but more particularly the Catholic christians of the coast, are under the spiritual controul of the bishop of Cranganore, or as he is often styled vicar general of Malabar. This prelate is nominated by the archbishop of Goa, but his jurisdiction in no way extends to the other congregations. The Syrians may amount to about thirty or thirty five thousand souls,† the Romo Syrians may be estimated at perhaps double that amount, the Roman catholics composing the remainder, the rites of the Syrian creed are performed in 55 churches, 64 are dedicated to the Romo Syrians' form of worship; 182 consecrated to that of the Roman catholic, (Latin Ritual) making a total of 301‡ churches, a proportion greater probably than in most European countries, and one that would indicate a wealth and devotion now unknown; the numbers belonging to each church are of course various, on the average each congregation would amount to 372 souls. Christianity is fully acknowledged by the chief autho-

* The Ranee not long since directed the restoration of some churches originally Syrian to that congregation, however just the measure may have been, it created some alarm amongst the Romo Syrians, some of whose pastors being rather turbulent on the occasion, it was found necessary to admonish.

† It has not been found possible to ascertain the number belonging to each particular sect.—The total amount of the christian population in Travancore and Cochin is 155693, to this amount may be added about 10,000 as the probable number of the christians in the Company's territory south of the Punnany.

‡ The total number of Syrian churches including Cochin, some within the Company's boundary, is fifty nine, those belonging to the Romo Syrians including ten in the Company's district of Chowkad amount to 101 churches, while the churches belonging to the Latin Ritual are enumerated 250, making a total of 410 churches scattered over that portion of the western coast south of the Punnany river.

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rities in those countries, or whether from their justice or indifference does not appear to have been exposed to persecution. This liberal spirit seems to have been communicated to the christians (not always so much disposed to allow as require toleration) as in some instances we find the same church, belonging to different sects. It will be quite unnecessary to enumerate the articles constituting the creed, of those who here profess christianity, that of the Syrians coincides in the most material points with the tenets of the church of England; the other classes adhere to all the romish absurdities; but the ancient faith and practice of all is corrupted and disfigured by endless superstitions, of which they have borrowed largely from their pagan neighbours; external objects are necessary to kindle their devotion, the whole Pantheon of Saints and Martyrs (and they share too much of their homage) pictured in grim disorder over the walls of their churches stimulates their fancy or enlivens their zeal, and pleases (the Syrians are less indiscriminate in their devotion) a taste gratified with every sort of mummery. Their church festivals are regarded from temporal as well as religious motives and attract the devotion of numbers; many churches and shrines have a local privilege, and a pilgrimage to them is considered of great efficacy, amongst them may be particularly remarked that of St. Thomas at Mulliapur, its festival occurs at Witsuntide, when innumerable votaries crowd to present their adorations and offerings. The christians are scrupulous in observing the outward forms of worship, are constant in their attendance at church, where they display a piety, at least an attendance and decorum, that might teach a lesson to the more enlightened. The women too partake equally in this feeling, and display a similar concern in spiritual matters. Yet though interesting, religion sits lightly on them, as with the Hindoos, it is in some measure interwoven with the business of life, yet like them also it would appear to have but little influence on their morality, which cannot be rated at a very high standard. The religious establishments are still in Apostolic poverty, at least the state of dilapidation * in which many of the churches are observed, would bespeak the insufficiency of the funds (sometimes diminished by the peculation of the elders) for the support of public worship. The revenue fluctuates with the condition of the flock, arising from voluntary contributions, fees on marriages, christenings, interments, &c. and Paudarum or per centage (seven and a half) on all dow-

* The religious buildings of the Syrians are observed almost always to be in a worse condition than those of the other sects, a circumstance difficult to say whether arising from a greater poverty or less active zeal.

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ries—The priests have no regular salaries, but participate in those fees, and their income increased by less direct means gives them enjoyments greater than most of their parishioners; real estate cannot be devised or made over to churches, but they may purchase lands, they however possess but little of this kind of riches, have no plate or valuables whatever, or indeed in most cases other property, than the few tawdry ornaments belonging to them.

However numerous the body of christians are, the other portion of the people evince no taste for their religion, although in its present state differing more in theory than practice from their own; at an earlier period it is said that the eloquence of St. Thomas, overcame even the bigotry of the bramins: a story, the truth of which their present opinions might lead us to suspect, was it not that many families are still pointed out and retain amongst them the tradition of being their descendants. With the apostle however has vanished the power of persuasion, as in other parts of India conversion and humiliation have much the same meaning, the indolence or prudence of the Syrians, leads them rather to avoid than seek proselytes, but even the more active zeal of the catholics, fond of increasing their numbers, meets here a scanty harvest, some few of the lower classes might be allured or persuaded, (not convinced) into conversion (as a spontaneous act it scarcely ever occurs) among the higher orders it would require an infinitely greater sacrifice, in consequence their scruple is almost insuperable.

The number connected with the church has not been ascertained, but they are tolerably numerous. The clergy are at present generally ignorant, some are taught Syriac, others Latin, (the language in which the liturgy of the different sects is performed) but so imperfectly as scarcely to comprehend what they read, and dreaming over the missal or legends of the saints, they display but little inclination to enlarge the circle of their accomplishments. They have few books, the laity none, and they require first to be taught to read before their distribution could be useful. But from this state of declension, the Syrians at least have a prospect of being raised, as a college (there was previously no seminary) has lately been founded at Kotium, for their instruction; this establishment owes its origin to the liberality of the Ranee, who has handsomely endowed* it. The metropolitan is at present aided or rather directed in his superintendence of this institution by some English gentle-

* It possesses a small tract of land near Quilon.

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men Missionaries: an advantage that promises the most important results. Indeed this appears the only manner in which their disinterested exertions could be useful. Travancore and Cochin present a fair field for their pastoral labours, but it is the business of education, not conversion, inculcating a more exalted devotion that shall unite morality with christianity, must be the best mode of promoting its interests, extending their ministration by communicating instruction (the arts of superior industry would be at present the most desirable lesson) cannot fail materially to advance those of the community. The formation of some parochial school, is one step towards the attainment of so desirable an end, but to render them of any efficacy, it is necessary that the same philanthrophy to which they owe their establishment, charge itself with guarding over and urging their progress.

There is a seminary at Verraupooly that educates the clergy of the Romo Syrian and latin churches, several schools are also scattered through the country, Pullypoorum, Pullingcoon, &c. &c, the establishment is under the superintendence of the vicar of the former place; but the instruction of this portion of the christian population was more particularly entrusted to missionaries of the Carmalite order, from de propaganda fide at Rome. That congregation however would appear indifferent as to the interest of this distant flock: a coldness of zeal with which it is not often chargeable. The clergy under the bishop of Cochin, have still less chance of improvement, there can scarcely be said to be any regular seminary for their education, which is in a great measure trusted to the parish priests, each of whom have one or two disciples, but no good can be hoped from such a tuition. The influence of the pastor, being often in proportion, to the ignorance of his flock, that of the Kuttanars is infinitely greater than their merits could deserve. To their spiritual, they join a limited temporal authority, arbitrating in temporal disputes, transgressions against the church are punished by reproof, or excommunication, but the road to reconciliation is not closed, this bar being removed on repentance. The practice of their pastors, however holds out a bad model for example. It must be confessed however, they have but few clerical honours to stimulate their exertions, to their ignorance they add a listless indolence, and a relaxed and pliant morality, difficult to reconcile with their precepts. They do not marry, the Syrians however are not enjoined celebacy, although they have observed it since the union of the churches, Menzes having denounced so uncanonical a custom on which (however encouraged to it) they have begun to infringe. The prohibition is pro-

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-ductive here of its usual irregularities, and the priesthood have the reputation of indemnifying themselves liberally for the restraint imposed on them; they are not however diverted by those pursuits from the regular observance of their religious offices; but they adhere more to the minutiæ than spirit of religion, and hope to atone by the repetition of puerile ceremonies for the sacrifice of important virtues. The Syrian priests better educated, and not so turbulent, are either less dissipated or more prudent, and (though not deserving the praise of any great purity,) enjoy a higher reputation. Their garment a loose white gown or shirt, reaching to the knees; clerical tonsure and flowing beard (this only with the Syrians) distinguishes them from the people; their ceremonial vestments display a good deal of tinselled finery.

The christians it has been seen, constitute about one eighth * of the population, but they are of so varied a character, that it may be desirable to discriminate the materials of which this body is composed. The Syrian † share is split into two parts, the Pootuncoor ‡ or Syrians, Piencoor or Romo Syrians, both these classes are found scattered in the tract lying between the northern limits and Quilon, and constitute infinitely the most valuable share of the christian population. That portion of it who chiefly belong to the latin church inhabiting the coast must be ranked greatly below the Syrians; they consist in a great measure of Moocoos, or fishermen, whose ancestors, the Portuguese extending their religion with their power, have forced or persuaded into christianity. The Dutch may have been more judicious in its promotion, they at least have been less violent or less zealous, having made but few converts, and it is only in the district of Agust Eshwur, that we find a large protestant congregation: converts from the Shanaurs. They are under the spiritual direction of an English Missionary, as also are the few of that particular creed found in the vicinity of Allecpey.

The Nassarenes (the Syrians claim and deserve the high rank) are superior to any natives of India who profess christianity, they are of a mild tractable disposition, ignorant but susceptible of improvement, and free from prejudice, might perhaps in time be taught (could such an object be desirable) to adopt our manners, to which however theirs at present does not make the slightest approximation.

* But with reference to the extent of country, in which they are found they bear a much larger proportion.

† They are collectively known by the term Maupulays or Nussarene (Nazarines).

‡ In allusion to some distinction as to the elements used in taking the sacrament.

Partially at least free from the prevarications that characterizes the Nairs, they have an infinitely franker deportment, and seem capable of a more lasting attachment than them, if they have less capacity their greater integrity might argue the possession of superior virtues. Peaceable and valuable subjects, they return obedience for toleration and protection, nor would it appear they ever evinced symptoms of uneasiness at the control of the Nairs; accustomed to their pretensions, they willingly submit to their ascendency: a passiveness that does not accord with the martial spirit they are said to have possessed, but of which the character now exhibits as few remains, as their condition does traces of the higher consideration they are represented to have held at a remoter date. Whatever may have been their former situation, they at present rank below the Nairs, in estimation, but they are not subject to the humiliation that so often attaches to the profession of christianity in Asiatic countries. The Syrians are much disposed to commerce, but they are generally seen as cultivators, some possess considerable property, they are laborious from necessity, and to their industry many of the finest districts owe their fertility. There is little to indicate the gradations of society amongst them. Turragan is a distinction conferred on a few of the principal men, but the rank carries with it no authority, and but little influence. Their domestic ceremony need only be incidentally noticed, unlike the Nairs, the rights of filiation are fully acknowledged amongst them. The women are free from any sort of restraint, a singularity belonging almost peculiarly to this part of India. Marrying if possible at an early age, they are not chargeable with the dissolute manners of the Nairs, as regards the commerce of the sexes. Like the Nomboories the bride must bring a dower, which as also with them always forms an important preliminary in every connubial treaty, for passion has but little influence in dictating the union, this custom however has not the effect of frequently imposing celebacy on the females, whose relations consider it a duty to promote their marriage; the solemnities common to this occasion are performed in the church, always on sunday, and particular periods of the year are considered propitious. It is unnecessary to describe the ceremonies as they do not materially differ from those observed by Europeans, except only that the Tally is the symbol of union. The different sects do not often intermarry; divorces are unknown, as the church interposes its authority to reconcile family feuds—widows are permitted to remarry after the lapse of a year—children are baptized (all have scriptural names) on the 13th day. They lay great stress on consecra-

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ted burial. This feeling leads them to make charnel houses of their churches, almost all of which exhale a sepulchral odour, nor is the practice likely to be abolished as it is found profitable. The cost of interment is graduated by the distance from the altar, and the solicitude evinced to be laid near this sanctuary, would indicate that they thought it their best chance for salvation.

The exterior distinctions, amongst the Syrians, are subject to much variety, but carry with them few traces of the mixture of a foreign origin. They are generally of a better stature, and a more coarse and robust form than the Nairs, nor do we scarcely ever among the women, observe the delicate features and flexible figure common to them; some few of the more opulent however, are extremely fair, have a fine and more than ordinary marked expression of countenance. Cleanliness does not hold a place amongst their virtues, the dress of the men has nothing peculiar in it, they generally go bare headed, their black luxuriant but greasy locks floating to the wind, or tied in a knot behind. The female costume is more decorous than that of the Nairs, altho' they display no reluctance to copy their nudity. It consists of a cloth (white is the invariable colour) wound round the middle, fixed in several folds at the hip, and reaching to the knees forms a petticoat; the person is concealed by a jacket on which some finery is occasionally lavished by embroidering the seams; it falls loosely below the waist, the sleeves covering the arm to the wrist. They often however dispense with this garment for a less cumbersome vesture; necklaces of venetians, a cross, and silver rings round the ancle compose the ornaments of the more wealthy.

It will not be desired further to pursue the detail of their manners, which bear in much of their minutiæ a resemblance to those of the Nairs, to whom (more especially the Syrians) in the aggregate of personal qualities they are not perhaps inferior; ameliorating the condition of the christian population generally is an object of enlightened benevolence, and it might be expected equally from our sympathy, generosity and interest. They of course have shared in the equal justice which a better government has dispensed during later times to the other classes, and since a judicious policy has within the past few years, peculiarly distinguished them, they have been introduced to office. This innovation has contributed greatly to soften the prejudices of the higher orders, may be attended with still more important results, and as uniting their interests, must fix their attachment to a domination that has raised them from the oppression

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which they shared in common with lower classes of the community to a respectable rank in it. Of the other portion of the inhabitants who profess christianity, it is superfluous to speak, they belong to the very lower orders, and present no peculiarities to discriminate them.

Shogamars—The Shogamars, or Eleevars, are not of the Shuder tribe. To the south this class is known as Shanars, to the north as Teeans: denominations carrying with them but slight shades of distinction, all may be considered as applicable to the same race; they are found throughout the country but in large numbers along the coast, performing in fact the chief horticultural labours of the cocoanut plantations, and employed in the various manufacture of the products. Always engaged in the more active operations of rural economy, they never hold office except of the lowest kind, in fact are rarely seen in any character than ryots of some description or other, martyrs to the distinction of casts, the higher order treat them with supercilious scorn. Too poor to invite their rapacity, they hold them in bondage, at least their domineering temper awes them into a servitude mitigated to be sure when contrasted to that of the Prœdial Slaves. During late years this class has been raised in some measure from the state of degradation in which they were held, the repeal of an oppressive poll tax from which the lowest poverty could not exempt, the abrogation of the Ooloogoo or forced labour, and many vexatious inhibitions and restraints, may have taught them their own rights and given them confidence to claim them. There is of course considerable variety in their condition and character, towards the south, they draw their subsistance from the palmyra, and enjoy some local advantages. The Shanars, bear a resemblance to the people of the other coast, and are not distinguished by that passive ductility of temper, that marks the character of those belonging to the more northern part. In so large a body some will possess considerable property, but the numbers of even the moderately affluent are exceedingly limited. All are allowed to hold lands and gardens, but they labour not, possession constituting the principal share of the under tenantry, paying a rent that allows but little profit. In fact their soil rarely ensures them more than a hut, affording an insufficient shelter, and permits them to subsist or rather starve, throughout the year on cocoanut and fish. They are not remarkable as wanting intelligence, are indolent, harmless, tractable, and if deserving the charge of a timid pusillanimity, it must be ascribed to the state of vassalage in which they have been so long held. There are some distinctions of rank, each village has a Tundan, or principal of its

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Eeluvan population. The office is heriditary attended by some privileges, and exercises a domestic authority, which is extended over all the lower classes—to it belongs the investigation and decision of all controversies connected with caste expelling from which, and imposing small fines, is the limit of its power. The Tundan presides at all ceremonies, but the Punniken, a character of subordinate dignity, is more particularly their priest, his spiritual aid being necessary on all such occasions, while his secular exertions are directed to the education of the village youth.

Kunneans and Panans—The Kunneans, and Panans, are merely divisions of the Elewur tribe, the former derive the appellation from the science of divination, which some of their sect profess. The Kunnean, fixes the propitious moment for every undertaking and hysterical affections being supposed the visitation of some troublesome spirit his incantations are believed alone able to subdue it. Numbers are employed in making the chattries or parasols so generally used here. The manufacture belonging peculiarly to them, but agriculture is their more ordinary pursuit. As it is also that of the Panans, this class claims equality with the former one, from it are taken the musicians of the inferior orders, but to this profession they add that of players, pretend to a knowledge of medicine and the occult sciences. The two latter accomplishments are here generally united. A doctor being necessarily a musician, and almost equally skilful in both characters. The Panans, differ from all the corresponding classes in being married, and the children in every instance belonging to the father.

II.—*An Account of the Island and Bridge of Sivasamudram in the Cáverí River. By Rámaswámí Múdeliar, Jághírdár of the Island.* (Extracted from the Transactions of the Royal Asiatic Society Vol. 3. Part 2d.)

(*Communicated by the Madras Literary Society and Auxiliary Royal Asiatic Society.*)

Read 17th December 1831.

INTRODUCTORY NOTE,

BY

JAMES S. LUSHINGTON, ESQ.

Secretary of the Asiatic Department of the Madras Literary Society and Auxiliary Royal Asiatic Society.

THE materials for the following account of the island of *Sivasa-*

mudram, together with the description and plans of the bridges which have been built, and are now building across the two branches of the *Cáverí*, were furnished to me by Ramaswami Mudeliar, the intelligent and wealthy *Jághírdár* of the island. As regards the antiquities of this celebrated place, I regret the imperfection of the memoir; but I am willing to hope that it will not be considered wholly destitute of merit. By the curious in architecture, the faithful representation of the bridges, and the plain description of the manner in which they are constructed, will be valued; while, to the observer of the human mind, and the speculator upon the progress of improvement in India, it must be an object of interest to mark the modes of thought and feeling entertained by a Hindu, who, in strict accordance with the precepts of his religion, undertakes a great public work, which would do honour to the professor of any religion, and to the citizen of any country, in any age. With a view of exhibiting, not only Ramaswami's natural sentiments, but his manner of expressing them in the English language, I have made very few corrections in the composition of the memoir. The first part was less perfect in style than the last; but in it I have preserved the original language, with as few alterations as could possibly be made, without leaving it in a state which would have shocked the ear of the English scholar. In the latter part, containing the account of his own bridges, where the subject-matter came home to his own business and bosom, and where, consequently, Ramaswami wrote with more ease and vigour, I did not find it necessary to make more than one correction, and that so trifling, that I may say the last part is presented to the reader in its original state.

It may here be proper to point out the inaccuracies into which Hamilton has fallen in describing the falls of the *Cáverí*. The height of each fall is much underrated; that of the *Gangana Chuki* being about three hundred and seventy feet, instead of from a hundred to a hundred and fifty feet; and that of the *Birra Chuki* about four hundred and sixty feet, instead of a hundred feet, as stated by Hamilton.

The Wellesley bridge at Seringapatam traverses the river in a winding direction. This tortuosity, it will be observed from a reference to the plans, is also the characteristic, in a much greater degree, of the bridges more recently constructed by Ramaswami,

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who derived the idea from observing the line of the ancient ruins still standing in the bed of the river; and, as he himself remarks, the manner in which his first bridge has stood against the severest floods, proves the excellence of the principle which he has adopted.

(Signed) J. LUSHINGTON,
Sec. Asiatic Department.

ACCORDING to tradition, the island of *Sivasamudram* is the most holy of places: it has its situation in a forest, and was the residence of the seven *Rishis* (or patriarchal sages) during the *Trétáyuga*, the second or silver age of the world. It is said, that as these *Rishis* or *Tapaswís* were once performing their ceremonies, two serpents, named TACSHACA and VASUKI, apprehensive of the attack of GARUD'ABHAGAVAN (or the divine bird and vehicle of VISHNU), came to these *Tapaswís* for protection, who offering them an asylum, obtained a promise from one of the serpents, that named VASUKI, that the people who should in future come to this place should not be exposed to the venom of his species. VASUKI having given this promise, the *Tapaswís* remained performing their devotions. It is said also that God appeared to VASUKI, and offered his protection upon the same promise; and as VASUKI was offering up his devotions to God, the seven *Tapaswís* came to visit God, and being alarmed at the earnestness of VASUKI's devotions, they also addressed their prayers to God with great fervency of spirit, until God granted them their desire, that no man should in future cast his eyes upon VASUKI until all apprehension from the serpents that should thereafter be generated on the island, should have ceased. God, moreover, directed VASUKI to live under ground, and only gave him liberty to come out at such time as he had to perform his *Pújás*. VASUKI accordingly lived in the *Pátálalóca*, and became a worshipper of RUNGASWAMI. While God was thus receiving *Pujás* from the *Tapaswís* and VASUKI, some *Brahmadévatás* and other devotees came also to visit him here daily, and perform their ceremonies.

It is farther said, that the moon having been cursed by God's priest upon some occasion, and deprived of her brightness, she prayed to I'S'WARA, and requested of him to allow her her full splendour; whereon he, favouring her with his presence, told her that she should go and make her devotions in the holy place called *Dandakáranium*

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(where the seven *rishis* and other devotees were passing their time in a holy manner), and assured her that he would appear to her there and fulfil her wishes, by restoring her to her brightness. The moon did as she was instructed, and performed her devotions, by which she obtained her wish. · This circumstance of the moon's having obtained her full brightness, made a great impression on the hearts of all those who resorted to the island, so that they said, "That whosoever worshipped I'S'WARA in the name of SOMESWARASWAMI (or the lord of the moon) on that island, and would perform religious ceremonies, distribute alms, and perform the *tarpanams* (or ceremonies to their deceased relations), and feed the *Bráhmans*, would undoubtedly obtain the remission of all their sins, and would also meet with every prosperity and the enjoyment of their wishes, in like manner as the moon had been restored to her brightness.

It is said also, that while these *tapaswís* and other devotees were passing their time in offering their *pújás* in this holy place, one JAMBUCASURA, a giant, and of the sect of the great RAVANA, gave great annoyance to them, and they finding it a great interruption to their devotions, quitted the holy place and proceeded to the *Godávari*, which is to the north of *Dandakáraniam*; but a virtuous *tapaswí*, one of the seven *rishis*, seeing this, feared that the removal of these *tapaswís*, and other devotees from the island, would cause the place to become desolate; he therefore prayed earnestly to BRAHMA that the giant might be destroyed: whereupon BRAHMA appeared to him, and told him that RAMASWAMI would proceed to *Landcadwípa* to avenge him of his great adversary RAVAN'A, by way of *Dandakáraniam*, when he would appear to him, and his wishes for the destruction of the giant named JAMBUCASURA, would be fulfilled by RAMASWAMI's disguising himself in the shape of a woman and killing him. The other *rishis*, when first acquainted with the promise made by BRAHMA to the above *rishi*, were not quite satisfied, and put little faith in the promise, but BRAHMA once more appeared to them, and told them to fear nothing from the giant, for that God would not leave them, but reside on a tree there till the giant their enemy was destroyed. Thereupon the *rishis*, returning to the island, continued to perform their devotions; and while they were doing so, RAMASWAMI forthwith came to the island and destroyed the giant, to the great astonishment of all the *rishis* and other devotees: and after performing ceremonies to his deceased father in this holy place, went away. When they saw this, they glorified BRAHMA for the victory over the giant their enemy. The

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rishis after this lived in great tranquillity for a long period, and then passed away to the other world, from which time the island became desolate till TERUCHOLARAYEN discovered the place.

TERUCHOLARAYEN, of the *Cshatriya* caste, was a petty king of *Karaladésem*, on the Malabar Coast, who having by some accident fallen into the great sin called *Brahmahatyá* (slaying a Brahman), found it necessary, in compliance with the behests of the *S'ástras*, to proceed to the river *Cáverí* to expiate his sin, by performing devout ceremonies, building temples, and distributing alms. As he travelled in search of a place where he might accomplish his intended purpose, he came to the island of *Sivasamudram*, where the river *Cáverí* nearly terminates; and deeming it a suitable place, he settled himself there, and became the first king of the island. Here he exerted all his authority, and applied all his resources to the erection of temples, provided for the performance of daily *pújás* and ceremonies, and granted *agrahárams* to the *Bráhmans*. He also obtained possession of twelve other villages on the western side of the neighbourhood of the island. The population was at this time comparatively small and poor. In his reign the *Rangaswámí* pagoda was erected. These possessions were governed by him in peace about a thousand years ago; and after his death, VISHNUVARDHANEN, his only son, succeeded him, and ruled over the kingdom in peace till the day of his death, when he was succeeded by his son SRIRANGARAYEN. The reigns of these three sovereigns are supposed to have lasted about eighty years; and after the death of SRIRANGARAYEN, the island and its dependencies went to decay for a short time.

After a lapse of time, GANGARAYEN, a petty prince of *Umattun* in the district of Mysore, also of the *Cshatriya* caste, but of the sect of SIVA, is said to have visited the desolate island; and finding it quite in a ruined state, he took measures for its improvement, and built a fort with gates of brass, and a bridge on each of the branches of the *Cáverì*, by which the island is formed. He also repaired the dilapidated pagoda of *Rangaswámí*, and enlarged the ruined pagoda of *Sómés'waraswámí*, which is said to have been found on the island when TERUCHOLARAYEN, the first king, took possession of it. This prince is said to have committed suicide by plunging himself into the cataract which is formed by the western branch of the river. The following are said to have been the circumstances which led to this desperate act.

It is stated that in GANGARAYEN's reign a *chakler*, named UM-

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BAH, having discovered a root which had the quality of making a man invisible, ground it into a very fine powder, and mixing it with a little oil, made a mark on his forehead with the composition, which, causing him to be invisible, he formed the audacious design, and actually achieved the enterprize, of frequenting the table of GANGARAYEN, and feasting on the luxuries of the king's dishes. He continued to do this, it is said, for the space of about twelve long years, until, the consumption at the king's table on these days being unusually great, the queen observed it, and wished to know the cause of the extraordinary consumption. Having laid her plan, she one day made GANGARAYEN, bathe in a very warm bath, after which she had meals placed before him, all of which were very hotly seasoned, and caused him on eating to perspire a great deal. The invisible *chakler* being at the same time at the table partook of the same hot dishes, which causing him also to perspire violently, his enchanted mark dissolved and dropped off, when he was instantly discovered by the prince, and on being questioned who he was, declared the truth, and fell dead on the spot. The king finding that he was defiled by having eaten with a *chakler*, consulted the *s'ástras* which directed him, for the expiation of so great a sin, to plunge himself and his wife into the *Càverì*. In obedience to this mandate, he caused his favourite mare to be saddled, and taking his wife behind him, proceeded to the falls of the western branch, from the precipice overhanging which he leaped into the "roaring whirlpool" beneath. This fall has hence received the name of *Ganganachuki*, or the leap of GANGARAYEN, and the most perpendicular part of it is called, "*The Mare's-tail.*" This prince is said to have reigned about sixty years; and after his death, his younger brother, named NONACHI GANGARAYEN, succeeded him. He governed the country in the greatest tranquillity, supporting and encouraging, as his brother did, every devotional ceremony and charitable institution. After a short time, however, finding the possessions of his hereditary kingdom too small, he seized some districts belonging to the Poligars, *viz. Palliam, Singanellore, Bundahully, Hajipuram, Colligal, Muduganda, Jiraganellore*, and *Gundagalem*. He had a son GANGARAYEN, and a daughter named MINATCHAMA, who was given in marriage to ACHYUTARAYEN, a petty *Rájá* of a *Drúg* called *Kelemalay*, near the *Mudhalli Hills*. NONACHI GANGARAYEN reigned peaceably for the space of about forty years; and after his death, his throne was left to his son, who after a peaceable government of about thirty years, was dethroned by his brother-in-law ACHYUTA

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RAYEN. The cause of ACHYUTARAYEN's enmity against his brother-in-law, GANGARAYEN, was as follows.

It was a habit of MINATCHAM'A, ACHYUTARAYEN's wife, the sister of GANGARAYEN, to boast, in the presence of her husband, of her father's possessions; and among other things, she would talk in vaunting terms of the brass gates of her father's fort at *Sivasamudram*. One night in particular, as she was in bed with ACHYUTARAYEN her husband, she said to him, that she heard the sound of the brass gates of her father's fort closing. ACHYUTARAYEN, provoked at her remarks, the next morning besieged the town with all his troops. GANGARAYEN, apprehensive of a severe attack, and finding the bridges now unsafe, had them both broken down, by which means he was enabled to hold the island against the enemy for twelve long years; at the end of which time, they finding it still impregnable, bought over GANGARAYEN's confidential secretary, and through his treachery, ACHYUTARAYEN was enabled to enter the island with all his troops through a secret pass. GANGARAYEN, on discovering this treason and its fatal effects, collected the whole of his family and relations together into the castle, and entering himself last, sprung a mine which had been prepared, and with all his family was buried in the ruins. When ACHYUTARAYEN entered the city, and witnessed the dreadful scene of havoc in the palace, of which he had been the cause, he was immediately struck with remorse, and returned to his own possessions. But one of the *Sardárs*, a Musselman, established himself in the island, and kept possession of it for about fifteen years; at the expiration of which time, as he was one night going through the streets of the city, he was attacked by a seven-headed *cobra da capella*: as soon as he saw it, he attempted to strike it, but the serpent spitting forth his venom, laid him dead upon the spot. After this, the island becoming a dependency of the Mysore territory, was scarcely inhabited, and went to utter decay. All these sovereigns were worshippers of RANGASWAMI and SOMES'WARASWAMI.

Account of the Island since it came into Ramaswami's possession.

I first visited the island in the year 1805, in attendance on Colonel WILKS, then British Resident at the court of Mysore; and it was at that time the abode of tigers and other wild beasts, the jungle being almost impenetrable, and all the buildings were in a state of utter ruin.

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The restoration of the island to its former sacred and charitable purposes, had long been the subject of my anxious thoughts ; and accordingly, in the year 1818, I made proposals to Government, the conditions of which were, that the island of *Sivasamudram* being given over to me and my heirs in perpetuity, together with a tract of jungle land, purposed to be occupied by inferior castes, I undertook to clear the island of the jungle, to erect a wooden bridge on the eastern branch of the *Cáverí* from the Coimbatoor side to the island, to build a bungalow for travellers, and to restore some of the religious edifices.

My proposals were accepted ; and in the year 1819 I made preparations for these arduous undertakings. From further inquiries, and after due consideration, I was of opinion that a wooden bridge would neither be lasting nor safe ; and I accordingly determined, without applying for any additional remuneration, to construct an edifice of permanent materials. The site of an old bridge was pointed out, and I resolved to erect the new one at this spot, and on the same principles of construction as the former appeared to have been.

The edifice was accordingly undertaken, and completed in the year 1821, according to a plan, a copy of which accompanies this memoir.*

The clearing of the island, and other works which I had undertaken to execute, proceeded at the same time with the construction of the bridge ; and the difficulties which I had to encounter were greater and more numerous than I am able to detail. The climate of the island and surrounding country presented an obstacle hardly to be overcome ; very many of the work-people, all of whom were brought from a distance, died from fever and dysentery ; others were obliged, after having been attacked by sickness, to seek recovery elsewhere ; and not a few deserted the works from the fear of the diseases, which they saw making such sad havoc among every description of workmen.

To all of them I had been under the necessity of making advances of money ; and my losses from their deaths, sickness and desertion, were very great. The rates at which all my people were paid were necessarily high ; and being also obliged to provide them with food, and comforts of all kinds, my disbursements were far beyond

* This will account for the want of perspective in the plates. See Plate 1.

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all my previous calculations, and my trials and vexations were almost too great for endurance.

Having however undertaken the task from a sense of religious and charitable feeling, and also with a view to public utility, I persevered, and I have at length the happiness to think that I have succeeded in many of my objects, although at a pecuniary expense of a much greater extent than I could have contemplated.

The jungle has been in a great measure removed, and little is now to be apprehended from the climate of the island. The wild beasts have been driven to seek other resorts, and the present colonists of the island are healthy and cheerful. The soil of the island is bad, being rocky and full of loose stones, but cultivation is carried on to a certain extent; and although its continuance must be at much pecuniary loss to myself, it will be persevered in.

The ancient edifices of religion and charity have been rebuilt and restored, and new ones have been erected.

Hitherto the public utility of the bridge (which has been named the *Rámshatuva*) has been small, as it has only been used by those who came to visit the sacred and charitable establishments on the island; but the benefits which will be hereafter derived from it, when the bridge now under construction on the western branch of the *Cáverí* shall have been completed, may be considered incalculable. By these two bridges, the communication to and from the possessions of the Honourable Company and the territories of his Highness the Rajah of Mysore will no longer be difficult; and the merchant and traveller will not hereafter be liable to the dangers which have attended the passage of the *Cáverí* in the unsafe basket-boats, nor to the inconvenience of detention on the banks of the river, when the passage, from its extreme rapidity and great depth, could not be attempted in such a conveyance.

I had for some years been anxious to see this communication established; and when the Right Honourable the Governor last year paid the island and this part of the country a visit, I took the liberty to express my opinions and wishes to his Excellency. I was in consequence directed to submit my plans and proposals; which I accordingly did, for the consideration of the Madras Government, and of his Highness the Rajah of Mysore, in the month of September 1829.

My proposals were, that in consideration of certain additional grants of land from the Honourable Company, and from his High-

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ness the Rajah, and being allowed to levy certain transit duties on merchandize, being half of what is now paid to the boat people, I undertook to erect at my own expense a bridge on the western branch of the *Cáverí*, of the most solid materials, and as soon as might be practicable.

The new bridge which, as a tribute of gratitude and respect to the Right Honourable the Governor, I intend shall be denominated, "The LUSHINGTON Bridge," is already considerably advanced, and if nothing extraordinary occurs to retard its progress, will I hope be finished in the course of next year, or early in 1832. A plan of this bridge, shewing also the progress made in its erection, accompanies this memoir.*

It will be seen that neither the *Rámashatuva* Bridge, nor the one under construction, is carried in a straight line across the river. Trusting to the skill and judgment of the ancient projectors of the former bridge, I followed the site upon which it appears to have been erected, and I have every reason to be satisfied of the propriety of the resolution which I adopted. The shape is certainly not a common one, but it seems better adapted than any other to the situation. When the river is full, the great body of the water in this branch runs in the centre of the bed ; to this the angle of the bridge is opposed, and the force of the stream, which is very rapid, is thereby broken.

The best proof, however, of the excellence of its form and structure is, that it has withstood the violence of repeated floods without sustaining any other than trifling damages, which were easily repaired. The original parapet of the bridge was of solid masonry ; but a part of it having been carried away by a great rise of the river, the whole was taken down and replaced by a wooden railing.

The length of the *Rámshatuva* Bridge is one thousand feet, the breadth of the roadway thirteen feet, and the height, including the foundation, is twenty-three feet. It is supported by four hundred pillars, which form a hundred and thirteen *chesmas*, and the stones forming the roadway are not let into sockets, but fastened to the pillars with iron pins and mortar.

The foundations are either cut into the solid rock, or into immense stones placed for the purpose, and in many places to the depth of five feet.

I am not prepared to state, with any thing like precision, the sum

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* See Plate 2.

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which this bridge cost me. The other works I had undertaken were proceeding at the same time, and I have briefly alluded to the causes which rendered the expenditure of money enormous. I was afflicted, not only with mental vexations, but my bodily health also suffered severely. I had repeated attacks of fever, which obliged me to leave the island, and to commit the superintendence of the works to servants, who neither could nor would exercise that strict vigilance over the labours of the work-people, which the peculiarity of the situation required.

The bridge was valued in the year 1823, by an officer of engineers, at 60,000 rupees. I am not acquainted with the data upon which the valuation was made, but I consider it greatly lower than it ought to have been; and I conceive myself borne out in this observation, when a comparison is made between the structure at this island and the Wellesley Bridge at Seringapatam.

This last-mentioned edifice was constructed under the orders of PURNIA, the celebrated *Diwán* of Mysore, who had of course all the resources of that government, as well as the skilful artificers and numerous labourers of Seringapatam, at his command.

The rates of hire and the prices of materials must, therefore, have been moderate: and yet it is well known that the Wellesley Bridge cost between seventy and eighty thousand *Canteroy* pagodas, or upwards of 2,10,000 rupees. The Wellesley Bridge is on the same principles of construction as the *Rámshatuva*; the former has a broader roadway, but it is not more than two-thirds of the length of the one constructed by me at this island. The highest of its pillars are from twelve to fifteen feet, while in the *Rámshatuva*, there are many from eighteen to twenty-one.

When the difficulties which attended the erection of the bridge at *Śivasamudram* are considered, with the facilities with which the Wellesley Bridge was built, I may without fear assert, that the valuation estimate of the former should have greatly exceeded the sum stated by the officer of engineers.

In concluding this memoir, I may be permitted to dwell with some degree of vanity and self-satisfaction on the works which I have already accomplished from my own resources, and without the aid of one rupee from the public. I have to reflect that I have been the means of restoring to my countrymen access to a place and its religious buildings, held sacred from time immemorial. That I have, by perseverance, rendered lands habitable which were formerly the

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resorts of ferocious animals only. That when the bridge on the western branch of the *Cáverí* shall have been completed, I shall have been the instrument of opening communications which had long ceased to exist, to the trader and the traveller; that the lives of man and beast will no longer be endangered in the passage of the rapid and deep *Cáverí;* and although I might enumerate many other public advantages which have been, and will be derived from my exertions, I shall only further allude to the facility which now attends the visits of the curious to the celebrated falls of the *Cáverí* on each of the branches, by which the sacred island of *Sivasamudram* is formed.

Finally, I may claim the merit of disinterestedness. I have shewn at how great pecuniary sacrifices and personal vexations and trouble the works have been perfomed; and I have no prospect of future recompense, nor do I ask any. The island of *Sivasamudram*, and the tract of jungle granted to me on the original agreement, were rated in the books of the Collector at 4,840 rupees per annum; whereas, when I took charge of these grants, they did not yield to government a revenue of a hundred rupees a year; even now, when a great part of the jungle has been cleared, both on the island and the tract above-mentioned, I do not receive from them more than eight hundred rupees per annum, which may be increased, when the jungle is entirely removed, to one thousand eight hundred rupees.

My monthly disbursements for charitable purposes,- the expenses of the pagodas, and on various other accounts, are not less than six hundred rupees, and the expenditure can never be less, while the several establishments of the island are kept up.

(Signed) T. Ramaswami,
Jághírdár.

Sivasamudram, Oct. 26, 1830.

III.—*An Historical account of the Christians on the Malabar Coast, by the Venerable Archdeacon Robinson,* A. M.

Part 2d.

(Continued from the 13*th page of our last Number.)*

Before we proceed to the narrative of events which followed the arrival of the Portuguese among the chsistians of St. Thomas, it will be useful to say a few words of their ecclesiastical dependence at that period. I follow with slight variations the narrative of La Croze and Geddes.

Gouvea, the Portuguese historian, relates in accordance with the tradition of the country, that on the destruction of Meliapoor, the

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Indian churches had no other ecclesiastic than a single deacon, whom they compelled to administer the Sacraments, as well as the other offices of religion, until they were supplied with a regularly ordained clergy. They sent accordingly to the church of *Babylon*, then famous for its learning and piety, and obtained from the Patriarch three bishops, one for themselves, one for Socotra, and the third for southern China. Two of these prelates, on their arrival at Cranganore, were disgusted with the country and returned. Whether *Seleucia*, or *Bagdad*, is intended by *Babylon* in this passage, is doubtful and therefore the time of this event is left uncertain. But t appears that the christians of Malabar, always gave their primate the title of Patriarch of Babylon,* which is founded on the antiquity of the city of *Seleucia*, which according to the testimony of Sozomen, was from the 4th century, the residence of the bishops of Persia, the primates of India, and which was antiently called *Babylon*, according to the testimony of Stephen of Byzantium.

"Under the reign of the Caliphs (says Gibbon,) the Nestorian church was diffused from China to Jerusalem and Cyprus. Twenty-five metropolitans, or archbishops, composed their hierarchy, but several of these were dispensed, by the distance and danger of the way, from the duty of personal attendance, on the easy condition that every six years they should testify their faith and obedience to the Catholicos or *Patriarch of Babylon*, a vague appellation which has been successively applied to the royal seats of *Seleucia*, *Ctesiphon and Bagdad*. These remote branches are long since withered, and the old Patriarchal trunk is now divided by the *Elijahs of Mosul*, the representatives almost in lineal descent of the genuine and primitive succession, the *Josephs of Amida* who are reconciled to the church of Rome, and the *Simeons of Van or Ormia*, whose revolt at the head of 40,000 families, was promoted in the sixteenth century by the Sophis of Persia." Gibbon viii. 345.

At what time these churches received the Nestorian heresy,† it is impossible to determine; probably in the early part of the sixth century, when the Nestorian clergy were sole masters of the Persian church,‡ and would of course diffuse their doctrine throughout their dependencies in the East. Certain it is that when the Portu-

(*) It is plain from the 33d of the Arabic canons of the Council of Nice (which tho' not genuine are very antient and of great authority) that the church of *Seleucia*, or *Babylon*, was antiently subject to the *Patriarch of Antioch*, who of all the Patriarchs, was their nearest neighbour. See Geddes page 16, and Gibbon viii. 339 note.

(†) For a full account of the doctrines of Nestorians, condemned by the 3d general Council (of Ephesus. A. D. 431.) See Mosheim's Eccles. Hist. 1. 40. &c.

‡ Gibbon viii. 341.

guese arrived amongst them, there was not a vestige of any other faith.

The first notice which Europe received of the christians of St. Thomas, after the revival of learning, was from *Pedro Alvares Cabral* or *Cabrera*, who commanded the fleet of Emanuel, king of Portugal, in the year 1500. In his war with the Samorin, he met with several of these christians, and two of them, brothers, accompanied him to Portugal. The eldest, Matthias, died at Lisbon; the younger, Joseph, went from thence to Rome, and afterwards to Venice, where an account was published, from the information he furnished, of the church of Malabar, which is found at the end of *Fasciculus temporum.*

On the arrival of *Vasco de Gama* at Cochin in the year 1502, the christians of St. Thomas, hearing that he was sent by a christian sovereign, solicited by their deputies the protection of the king of Portugal against the oppressions of the heathen Princes, and received from the admiral the assurances of his friendship. From that time till the year 1545 no mention is made of them in the transactions of the Portuguese, who were too much occupied with securing and enlarging their conquests, to attend to the wants of a poor and defenceless church. " But (as Geddes well remarks), the Portuguese's negligence in this matter was nothing so scandalous as the violences they afterwards made use of in the reducing of them.*"

The first Missionaries, who laboured among them were Franciscans; one of whom, called *Fre Vincent*, had accompanied Don John D'Albuquerque, the† first bishop of Goa, who was also of that order. He established himself at *Cranganore*, where he built churches in the European style.‡

This Missionary however, not being supported by the secular arm of the authorities of the place, made little progress, and therefore begged the Viceroy of Goa to found a college at *Cranganore*, where the Indian youth might be educated in the learning and discipline of the church of Rome; in order that, in process of time being admitted to the priesthood, they might bring their nation under the authority of the Pope. The Indians, sent their children for education to the college; but when they were ordained, they would not admit them into their churches, altho' they had previously admit-

* Page 6. † A. D. 1545.

‡ La Croze says that the antient churches of Malabar scarcely differed in form from the heathen temples. I know not on what authority this assertion is made. There seems no ground for it.

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ted the Portuguese clergy. In this they followed their antient canons, regarding the Potuguese with the courtesy due to strangers, but their children, who had embraced the ritual of the Latin church, as apostates from their own.

The Jesuits seeing the failure of the Franciscans, formed a wiser expedient for the attainment of the same object. They obtained funds from the king of Portugal* for a college, which they founded at *Vaipicotta* at the distance of one league from Cranganore, where there was an antient christian population. There under the auspices of the viceroy of Goa, and with the permission of the king of Cochin, they instructed the children of the christians in the Syriac language. This Institution, though in some measure it promoted their views, did not produce all the effects they anticipated; for the Indian youth whom they educated, when ordained, did not presume to preach against their own prelates, and the Jesuits had the mortification of hearing them, even within the walls of their college, support their old opinions, and retain the name of the Patriarch of Babylon in their liturgy.

The Portuguese, seeing the little effect of the measures hitherto pursued, determined to sieze the Syrian bishop, and send him to Rome for the double purpose of effecting his conversion from the errors of Nestorius and leaving the churches of Malabar more open to the instruction of their missionaries during his absence. This bishop was called *Mar Joseph*, and had been consecrated by Mar *Ebed Jeshu*, the patriarch of Babylon, who had assisted at the council of Trent in the year 1562. He was arrested at Cochin, and carried to Goa to give account of his heretical opinions, from whence he was sent to Portugal. At that court however, he was received with great kindness by the Queen, (Catherine) who sent him back to India with letters of recommendation to the authorities of Goa, desiring that he might be left in peaceable possession of his diocese.

In the mean time, the christians of Malabar, seeing themselves thus deprived of their bishop, and uncertain what might be the issue of his voyage, wrote to their patriarch *Mar Simeon*, and entreated him to send them another. He complied with their request, and Mar Abraham, whom he ordained and sent on this service, arrived on the coast in disguise, to the great joy of the whole church. While he was administering holy orders, and exercising the functions of his office, Mar Joseph returned from Portugal, and though regarded with suspicion by the archbishop of Goa, was by virtue of

* Geddes says that it was built at the sole charge of *Antonio Guedes Morales*. *History of the Church of Malabar*, page 11.

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the Queen's letters, suffered to resume his office. The church was divided into parties by the two rival bishops, and Mar Joseph appealed for protection to the archbishop of Goa. Mar Abraham was accordingly siezed by his order and sent to Goa, where he was put on board a vessel bound for Portugal. The ship however touching at Madagascar, he there made his escape, and went to Mosul with a view of obtaining fresh orders from the Patriarch and returning to India. Fearing however that the influence of the Portuguese would never leave him in repose, he took the hardy resolution of going at once to Rome, where he arrived under the pontificate of Pius IV. The Pope compelled him to make a new confession of faith, and to promise the entire reduction of this church to the Roman See; and the Eastern forms of ordination being different from the Romish ritual, he decided that Mar Abraham had never been properly ordained. He obliged him therefore to receive the several orders, from the tonsure to the priesthood inclusive; and then having enjoined the Patriarch of Venice to consecrate him bishop, he sent him back to India, with a brief addressed to the viceroy and the bishops directing them to acknowledge him as bishop of Angamale. The records of all these transactions, were in the time of Gouvea in the church of Angamale, then the cathedral church of Malabar.

Mar Joseph, during the absence of Mar Abraham, enjoyed all the prerogatives of his office, and continued to preach the doctrines of Nestorius, in violation of his engagements both at Goa and Lisbon. The archbishop of Goa and the bishop of Cochin wrote to the Cardinal Don Henny, who obtained from the Pope, (Pius V.) an order to the archbishop of Goa, to make strict enquiry into the charge of heresy and if he were found guilty, to send him immediately to Rome. He was accordingly siezed and sent to Portugal, and from thence to Rome, " where (says Gouvea) *he ended his days.*"

Mar Abraham arrived at Goa a short time after the departure of Mar Joseph, but was received with great suspicion by the Portuguese, and confined in the Dominican convent. He contrived however to make his escape, and went to his own church, where he was received with transports of joy. He re-ordained those whom he had formerly ordained, apparently in obedience to the decision of the Pope regarding the invalidity of his own consecration, but he still continued to preach the errors of Nestorius and suppressed the name of the Pope in the public prayers, inserting only that of the Patriarch of Babylon. Gregory the XIII, at the instance of the archbishop of Goa, addressed a brief to him dated November 28, 1576, enjoining him

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to preach the catholic doctrine and to attend the provincial councils assembled at Goa, and to observe all the decrees which might then be made for his diocese. In consequence of this letter he attended the third provincial council assembled by Don Vincent de Fonceca, archbishop of Goa, and made a new confession of faith, to which he added (if we may believe the Portuguese historian) a formal renunciation of his errors, and bound himself to obey the decrees of the council, and to deliver up to them all the heretical books in his diocese, in order that they might burn some and correct others. The council finding that in his ordination of priests, he put no wine into the calice when he placed it in the hand of the candidate, pronounced the ordination null and void, and obliged him to re-ordain them in the presence of two Jesuits from the college of Vaipicotta. So that these priests were ordained, three several times!

Sometime after the council, Mar Abraham, apprehending that his Patriarch would be offended at his proceedings, wrote a letter to him informing him that he had attended the council of Goa, from fear of the Portuguese "*who were as close upon his head as the hammer upon the anvil*;"—and that he had carried with him his confession of faith, which was highly applauded by the bishops. This letter was intercepted.

His apprehensions of the displeasure of the Patriarch, appear to have been well founded, for about this time a Syrian arrived in Malabar, named *Mar Simeon*, who gave out that he was sent by the Patriarch of Mosul to succeed Mar Abraham. The whole diocese was thrown into confusion by the parties, and mutual excommunications of the two prelates, Mar Simeon being supported by the Queen * of the country at carturte, and Mar Abraham by the Portuguese, to whose protection he appealed. After some time however Simeon was pursuaded by some Franciscan Missionaries, in the interest of the opposite party, that he would never be secure in the possession of his dignity, till he obtained the sanction of the Pope. He therefore went to Rome, to solicit it; and Sixtus V. the reigning Pontiff, according to Gouvea, finding on examination that he was a Nestorian, that he was not a bishop, and that there was no proof of his being even a priest, obliged him to recant his errors, and confined him in a monastery, till he should be instructed in the Catholic doctrine. The sentence, pronounced by the Pope himself, declared that he was not a bishop, and forbade him to exercise any episcopal function, or even to celebrate Divine Ser-

* Called by the Portuguese, *Rainha de Pimenta.*

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vice. The principal reason of this sentence according to Gouvea, was a letter which Mar Simeon had written to the Patriarch of Mosul, and which had been intercepted by the Portuguese. He there represented to him that on his arrival in India, finding the authority of the Patriarch so weakened, the bishop of the Malabar so infirm, and the Portuguese so determined to overthrow the rites and doctrines of the Syrian churches, he thought he was rendering a service to God by assuming the title and exercising the functions of bishop, in order to preserve the authority of the Patriarch. He therefore entreated him to confirm the orders which he had given, and to send him letters, declaring him archbishop of the christians of Malabar. Such is Gouvea's account, but it is difficult to give implicit belief to so partial and prejudiced an historian; and the more natural interpretation of the letter is that Mar Simeon had been consecrated without a title, (as is common with the oriental churches) and sent by the Patriarch to enquire into the disorders of Malabar; that finding that they required a prompt and immediate remedy, he assumed the government of the church, and requested the Patriarch now to confirm what he had done and to send his *Sustaticon* or letters patent, for the legal possession of the diocese.

From Rome Mar Simeon was sent to Portugal, and confined in the Franciscan convent at Lisbon. From thence he wrote every year to the churches that recognized his authority in Malabar, and particularly to a Catanar, or Priest, named Yacoob, whom he had appointed his vicar general. These letters, in which he styles himself Alexis de Metropolitan of India, contain all the errors of Nestorius. Don Menezes finding one of them when he visited Malabar in 1599, sent it to the Inquisitor General at Lisbon. After this we hear no more of Mar Simeon.

His rival was now left in full possession of the See, though Yacoob, the vicar general of Mar Simeon, refused to own his authority. Don Matthias, archbishop of Goa, held at this time (A. D. 1590) the fourth Provincial council of India, and summoned Mar Abraham according to the brief of Gregory XIII. but that prelate feared to trust himself a second time to the good faith of the Portuguese, especially as he had not adhered to the promises that were extorted from him in the preceding council. To every summons he answered in the words of an Arabic proverb—*The cat that has once been bitten by an adder, is frightened even at a string.*

The Portuguese having informed the Pope (Clement VIII.) of the refractory conduct of Mar Abraham, obtained a brief, addressed to the famous Don Alexis de Menezes, then newly appointed arch-

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bishop of Goa, enjoining him strictly to enquire into the life and doctrine of that prelate, and if he found him guilty of the charges brought against him, to send him to Goa under a sure and honorable guard, and to transmit to Rome authentic copies of the proceedings, in order that the holy See might form an exact and precise judgment.

To prevent however any evil to the diocese of Angamale, either in spiritual or temporal matters, the Pope directed the archbishop to appoint, a vicar Apostolic, who should if possible be well acquainted with Syriac, and that in future no prelate should be admitted to that diocese who was not elected by the holy See. This important document, on which were grounded all the subsequent persecutions of this unfortunate and injured people, was dated from Rome, the 27th January 1595.

Don Alexis de Menezes, on his arrival in India, transmitted a a proces verbal to Rome of the information required. But the great age and infirmity of Mar Abraham, which confined him entirely to his house in Angamale, prevented him from securing his person. Learning however that the church had written to the Patriarch of Mosul to send a new bishop, he sent orders forbidding the Portuguese at Ormus under pain of ecclesiastical censure to allow any priest or bishop of Chaldea, Persia, or Armenia, to pass into India. This order compelled the new archbishop, who had received the letters of the Patriarch and was waiting at Ormus, for a passage, to return to Persia. The strictest search also was ordered of all Syrians and Armenians who might arrive in any Port of India.

In the mean time Menezes, in order to check the schism that prevailed in Malabar, wrote to the Catanar Yacoob, the vicar General of Mar Simeon, commanding him to submit to the authority of Mar Abraham. The priest refused to obey, and continued his factious conduct and heretical doctrines. He wrote also several letters to Mar Abraham, and to his archdeacon, (the only ecclesiastical dignity in his diocese) exhorting them to retract their errors, to give up their Nestorian manuscripts, and to submit to the Romish church. The aged bishop replied to these letters with frivolous excuses in order to gain time; and the manner of his death, which happened shortly after, proved that he retained his former creed unchanged.

Menezes, was engaged in a visitation of his own diocese of Goa. when he received the news of Mar Abraham's death, and was unable to escape from his more urgent and immediate concerns to undertake in person the enterprize that was nearest to his heart—the complete reduction of the church of St. Thomas to the authority

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of Rome. As the first step however in obedience to the Pope's injunctions, he nominated *Francis Roz*, a Jesuit of great learning, and well skilled both in Syriac and Malayalim, vicar Apostolic of the diocese. The council of Goa disapproved of this nomination, as likely to disgust the church of Malabar, and recommended the appointment of the archdeacon George, whom Mar Abraham, at his death had left in charge of his diocese, and who was universally respected and esteemed. Menezes, in accordance with their suggestion, sent the archdeacon a new patent, appointing him vicar general, but giving him two associates in the office, Francis Roz, and the Rector of the college of Vaipicotta. In the same letter, he ordered him to make before the Rector of the college, a solemn confession of faith according to the council of Trent, together with the oath contained in the bull of Pius IV. The archdeacon objected to the appointment of any associates in his office, and Menezes yielded the point and sent him a new patent, appointing him sole vicar general, with no other condition than the confession of faith. The archdeacon received the patent, but declared that without it he was in full and lawful possession of his charge, and deferred the confession of faith, to Thursday in Passion week, ostensibly in order to make it more solemn, but really in the hope that before that time a new bishop would arrive from Mosul.

The appointed day however being come, the archdeacon declared boldly that he would not make the confession of faith demanded of him, that he did not recognize the church of Rome as having any thing to do with that of St. Thomas, and that he would never submit to the archbishop of Goa as his superior. He convoked an assembly of the priests and chief persons of the nation at Angamale who resolved that in all matters of faith, they would do nothing without the consent of the archdeacon; that they would suffer no innovation of the antient usages, that they would never suffer the law of St. Thomas to be destroyed, nor even admit any bishop into the diocese but those who come to them from the Patriarch of Babylon. They swore to maintain these articles at the peril of their property and lives, and published their resolution throughout the diocese.

From that time, they no longer suffered the Portuguese priests to officiate in their churches, as they had done before, nor the Jesuits of Vaipicotta to preach amongst them.

A. D. 1597. Menezes, alarmed at the news of this insurrection, resolved immediately to visit the diocese, and was only prevented from executing his plan, by a war which broke out between two

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of the chief Rajahs of the coast, which rendered the journey dangerous, and interrupted all intercourse of christians. Forced by these circumstances to defer his expedition, he wrote to the archdeacon and to the church, that he was on the point of visiting them, but that, for weighty reasons, he should defer his journey to the following spring; and that in the mean time the archdeacon should make his public confession of faith as he was pledged to do, that he should give up all the Syriac books in his diocese, of whatever nature they were, to be purified and corrected, and lastly that he should bring all his people into subjection to the church of Rome.

The archdeacon was alarmed and began to temporize. He declared that he was ready to make the confession of faith before persons of any other order, but that he had reasons to complain of the Jesuits. Menezes however, was entirely governed by that Order in the whole conduct of his expedition to Malabar. They had already fixed on the Episcopal dignity as the object of their ambition, and they obtained it by the credit and connivance of the archbishop. They enjoyed it subsequently, as we shall see, till the christians, weary of their avarice and their tyranny, rose *en masse* against them, and thus depriving the Jesuits of so honorable and lucrative a post, contributed not a little to the conquests of the Dutch, and the expulsion of the Portuguese from that coast.

Menezes was firm in his demands, and several circumstances that occurred at this time tended to widen the breach between the two churches. He sent a Franciscan Friar, who had brought him letters from the archdeacon, to receive publicly his confession of faith, and to send it to him to Goa in Malayalim. The archdeacon, intimidated by his threats, consented to make a confession of faith, provided he were not forced to make it publicly, lest it should be thought that hitherto he had not been orthodox. He made accordingly a sort of confession of faith in private before the Franciscan, and sent it to the archbishop. Menezes was exceedingly displeased with this document, because it was neither public, nor in the form prescribed by Pius IV; because the archdeacon had contented himself with saying that he was a Catholic, without abjuring the errors of Nestorius; because he professed to believe in the Holy Church without adding the word *Roman*; and because he declared the Pope to be the Pastor of the church, without saying that he was the *universal* Pastor of the whole church of Jesus Christ.

This confession not being admitted, the Franciscans determined to extort another which should be more acceptable. They therefore proposed to him to meet them at Vaipin in the immediate

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neighbourhood of Cochin, and to comply *publicly* with the archbishop's wishes.

The archdeacon, in the hope that his compliance would prevent the visit with which Menezes threatened his churches, promised to do all that was required of him. He attended on the day appointed, and being seated on a chair prepared for him in the presence of the Governor of Cochin, accompanied by many, both of the clergy and laity, a Portuguese priest read to him the confession of Faith in Portuguese, demanding of him if he believed all that was therein contained. The archdeacon, who did not understand Portuguese, answered in the affirmative without hesitation ; and the same when they asked if he acknowledged the Pope as the head of the church and the archbishop of Goa as his superior. The Portuguese (adds La Croze from whom this whole narrative is taken) received this confession with great expressions of joy, but the Jesuits, who were within hearing, judged very differently. Menezes who received from Vaipicotta a full account of the whole transaction, resolved, notwithstanding the wars of Malabar and all the other inconveniences that oppposed him to visit the churches of St. Thomas without delay and to reduce them finally to the obedience of the Holy See. The narrative of that expedition must be reserved for a subsequent communication.

To

The Editor of Journal
of the Madras
Literary Society.

IV.—As frequent notices have been made regarding the Earthquake, which occurred on the 26th of last August, the vibrations of which were experienced over an extensive range of country in Bengal, and as several queries have been submitted for consideration as to the cause of earthquakes generally and locally, I have been induced with the view of contributing my mite, in support of the Madras Journal, to offer the following brief outline, in which no profession is made of furnishing any original illustrations, my only object being to arrange various established truths drawn from the latest authentic sources of geological knowledge, in a condensed form adapted to the limits of a periodical publication.

B. W. WRIGHT,
Asst. Surg. 8*th Regt. N. I.*

Vizianagram, 28*th Octr.* 1833.

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The theory of the subterranean movements being so intimately blended with that of the whole terrestrial system, it appears advisable to consult various works on the formation and revolutions of the earth, ancient and modern. In these it will be found that a vast accession of knowledge, has been gained from modern physical and geological discoveries, geologists having of late years explored many mysteries, the structure of the earth being surveyed minutely and in detail, the organic inscriptions of its different strata being carefully examined, and comparisons made, facts have been ascertained, beyond the reach of former philosophers, each of whom had a creed of his own considered supreme, their system being essentially dogmatic, having entirely disregarded the Mosaic account of the creation, the only certain foundation to build upon. Werner and Hutton are two of the latest and most celebrated of these philosophers, being the leaders of the rival factions of the Vulcanists and Neptionists so called from their different definitions of the terrestrial system. Werner considering that the globe was anciently covered by a vast solution, differing from our existing seas, and that this chaotic ocean contained the elements of the primitive lands, whilst Hutton attributed every thing to the agency of internal fire; his theory is the most elaborate, and comprehensive, that has hitherto appeared; giving a general abstract of it here would however exceed the bounds allotted to this disquisition, the defects and inconsistences of both systems have of late years been ably exposed by Lyall, Ure, and many other practical naturalists. Ure after criticising, both cosmological systems, compliments the authors on having decked them out in very technical language although he winds up this eulogium with stating that their theories are almost as fantastical and extravagant as that of some of the ancient philosophers of the Tonic, and Attic, schools. On perusing the geological works of Smith, Maccullock, Lyall, Ure, and other late writers, it will be found that a new school has arisen, in which speculative and dogmatic systems are entirely discountenanced. In Lyall's account of the geological society of London, he states " that the system in vogue is to multiply and record observations, and patiently await the result of some future period, it being their favourite maxim, that the time is not yet come for a general system of geology; but that all must be content for many years, to be exclusively employed in furnishing materials for future generations; by acting up to their principles with consistency, he says, that they have in a few years disarmed prejudice, and rescued the science from the imputation of being a dangerous or at least a

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visionary pursuit."

French naturalists, have also of late years, by the application of the history of organic remains, to the science of geology, given many enlarged views regarding the former changes of the earth; comparisons having been made between ancient and modern fossil specimens, and inferences drawn with regard to their habits.

To proceed however in the more immediate investigation of earthquakes; formerly peculiar states of the atmosphere were considered productive, and prognostic of these convulsions; there is generally allowed to be an intimate connexion, but as Mitchell has remarked, " it is more probable that the air should be affected by the causes of the earthquakes, than that the earth should be affected in so extraordinary a manner, and to so great a depth by a cause residing in the air."

It is however the general opinion of all late authorities, that earthquakes, and volcanoes are intimately blended, being the effects of the same agents, although they give rise to different phenomena on the surface of the globe. I shall therefore first give some account of Sir Humphry Davy's theory of volcanic actions; which is generally allowed to be the most correct and satisfactory. From thermometrical experiments on the temperature of mines, and hot water springs, it has been shewn that the interior of the globe, possesses a high temperature, which in some degree simplifies the problem of volcanic fires. Sir, H Davy says, " that on the hypothesis of a chemical cause for volcanic fires, and reasoning from known facts there appears to be no other adequate source than the oxydation of the metals, which form the basis of the earths and alkalis. He considers, that these from their great affinity to oxygen, could not exist on the surface of the earth, but only in the interior of the globe, and that volcanic fires are occasioned, whenever these are exposed in subterranean cavities to the action of air and water." On examining a stream of lava, issuing from Vesuvius, he ascertained that there was no combustion going on at the moment of its exit from the mountain, on lifting up some of it in an iron ladle it did not ignite more vividly, on being exposed to the air, some of it was poured into a glass bottle containing silicious sand at the bottom, a ground stopper was closed at the moment, and the bottle was found to contain when afterwards examined by the test of nitrous gas as large a proportion of oxygen as common air; when melted nitre was thrown over the lava, it fused from the heat, but there was not the least increase of deflagration, to indicate

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the presence of combustible matter; various other experiments were followed by the same inferences upon another occasion, when flame and steam issued from the crater, there was no indication of carbon. I have however mentioned sufficient to prove, that the causes anciently assigned for volcanic fires, are proved by Sir H. Davy to be fallacious, the most current of these was the combustion of mineral coal, this he says "is most inadequate, for however large the strata of pit coal might be, its combustion under the surface could never produce intense heat, the production of carbonic acid gas, would impede the process and if this cause existed, carbonaceous matter would be found in lava. In England, there is an instance of strata of pit coal having been long burning, but the only result was, baked clay not in any way resembling lava, the action of sulphur upon iron has also been assigned as a reason, but were this the case sulphate of iron would be the chief product of the volcanics, "Sir H. Davy therefore assigns these phenomena to chemical causes, the products of volcanoes giving an idea of the substances primarily active; these are found to contain mixtures of the earths and alkalis in an oxydated and fused state from intense ignition, water and saline substances are also found, such as may be furnished by the sea and air but altered in such a manner, as may be expected from the formation of fixed oxidigied matter. He moreover states, as a reason, why the combustion is not increased, when the volcanic productions pass into the atmosphere, that volcanic fires take place in immense subterranean cavities, and that the access of the air to the acting substances occurs long before they reach the day, lava being the refuse of combustion below, Lyall and several other practical naturalists support these opinions, observing that earthquakes are generally attended and preceded by heavy torrents of rain inundating contiguous regions, water being supposed to percolate and descend by fissures to those cavities accounting in some degree for the prevalence of earthquakes and valcanoes in Islands, and in countries, bordering on the sea. Before the eruption of the hot springs in Iceland, the ground is always agitated, and if the vapours which are condensed in these small cavities are capable of agitating the ground to any extent, what may be expected when they are confined below in extensive subterranean cavities. The intensity of the heat in these regions, and the density of the air from the immense pressure from above can only be imagined when it is known that limestone melts without giving off its carbonic acid under a pressure of 1700 feet of sea which only cor-

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responds with 600 of liquid lava as proved by Sir James Hall. That immense subterranean cavities exist there can be no reason to doubt, there being apparent communications at great distances between different volcanoes. Ure mentions " that the limestone caverns of Carniola contain many hundred thousand feet of cubic air, which he says shews the extent to which subterranean cavities may exist even in common rocks, and the deeper is the excavation, the denser is the air, and the fitter for combustion." Lyall suggests that the circulation of heat from the interior to the surface is probably regulated like that of water, from the surface to the sea, in such a manner that it is only, when some obstruction occurs that the usual repose of nature is broken." In order next to prove the intimate affinity of volcanoes and earthquakes, it will be found, that the former are distributed over vast tracts, and there is plentiful evidence that subterranean fires are continually at work in the spaces between. Earthquakes being of frequent occurrence, hot springs being distributed at intervals impregnated with the same mineral matters as are discharged by volcanoes, and gaseous vapours being discharged plentifully from the soil, several writers have of late years declared, that the energy of subterranean fires has considerably abated, several volcanoes having become dormant; but it would be difficult however to define a time in which a volcano may be said to be extinct, as there are instances on record of a recurrence of eruption after a dormant state of several centuries in the same volcano. In continuance of the proof of the intimate relation of earthquakes, and volcanoes, the region of the Andes is said to be one of the best defined there being an uninterrupted line of volcanic vents, in almost every degree of latitude from the 46 south to the 27 north; in these different provinces hot springs are numerous and mineral waters of various kinds, a year seldom passes without slight shocks of earthquakes, and once in a century convulsions occur by which continuous tracts of land have been raised from one to twenty feet above their former level, many extensive vallies in this chain of mountains, have been filled up with volcanic products; the volcano of Jorullo, which is in about the centre of the range is 40 leagues distant from the sea which is considered important as it shews that proximity to the sea, is not a necessary condition, though the general characteristic of volcanoes; besides the volcanic range of Andes, there are others of even greater extent mentioned, of which a discription would occupy too great a space. The volcanic bands of the Molucca and Sunda Islands, are the nearest however to the continent of

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India, it extends from the Phillippine Islands as far south as Java, and runs as far to the north as Barren Island, in the Bay of Bengal. In all of this tract there are ample evidences of the intimate relation of earthquakes and volcanoes. This relation and affinity being allowed, it only remains for me to make a few general remarks. From chemical researches, it is well known that various changes are going on in the surface of the earth, there being a constant state of waste and repair, chemical composition and decomposition, it cannot therefore be supposed that the interior of the globe is one inert and dormant mass. It is well known that at the periods preceding the eruption of volcanoes, earthquakes were frequent, and that various vapours, gases, and other substances, the result of chemical decomposition escaped suddenly at those periods, and must have been detained below, under a high state of compression, and that these eruptions were attended by a period of subsequent rest. May we not therefore reason justly from these visible effects that the same changes are going on at greater depths and in larger cavities in the interior of the earth by which explosive compounds, whether gaseous, or solid, may be produced, vapours condensed, and changes take place similar to those of volcanic action, although at so great a depth, as to be beyond the reach of observation, which however may be capable of exerting an excessive mechanical power, equal to that required to produce extensive earthquakes. There is a valuable remark in Ure's work, that primitive formations which are oxydized at the surface of the earth exist at a moderate depth devoid of oxygen in the state of simple combustibles, he states "that the crust of the earth consists mainly of six substances, Silica, Alumina, Iron, Lime, Magnesia, and Potash, which when reduced by the chemist to a state of simplicity, become the combustible elements Silicon, Aluminum, Calceum, Magnesium, Polassium, Iron, a mixture of which at common temperatures on coming into contact with water or moist air, would cause fire and explosion—and if the quantities were great, earthquakes and volcanic eruptions would ensue."

Lyall, towards the conclusion of his first volume reasons "that the renovating and destroying causes in the earth are constantly at work, the repair of land being as constant as its decay, the deepening of seas keeping pace with the formation of shoals—he says that if in the course of a century, the Ganges and other great rivers have carried down to the sea, a mass of matter equal to many lofty mountains, we also find that a District in Chili one hundred

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thousand square miles in area, has been uplifted to the average height of a foot or more, and that the cubic contents of the mass that added in a few hours to the land may counterbalance the loss effected by the aqueous action of many rivers in a century." He seems to consider that the dimensions of the planet remain uniform; the internal accession from below by mineral springs and volcanic vents, being counteracted by actions of a different kind, the amount of subsidence and elevation being so proportioned that the distance of the surface from the centre remains unchanged. In his conclusive remarks regarding earthquakes " he says that the constant repair of dry land and the subserviency of our Planet to the support of the terrestrial as well as the aquatic species, are secured by the elevating and depressing power of earthquakes, this cause he says, so often the source of death, and terror to the inhabitants of the globe, which visits in succession every zone, and fills the earth with monuments of ruin and disorder is nevertheless a conservative principle in the highest degree, and above all others essential to the stability of the system." This reasoning of the learned geologist will certainly be more consolatory to the world at large than to those persons whose household property has been disarranged by the late convulsions in Bengal. They doubtless will not be inclined to attribute a conservative agency to that earthquake in particular, they are however the only persons, who from local knowledge can be best capable of supporting an opinion as to the amount of subsidence or elevation whether or not any gaseous vapours escaped from the soil in this instance, and if there are any volcanic products in the districts in which the vibrations of the earthquake were felt. It seems to be generally supposed, that the continent of India is deficient in evidence of volcanic agency, which surely must be owing in some degree to the want of geological scrutiny; the only work which I have casually had it in my power to peruse, is a survey of the Hyderabad country by Doctor Voysey, in which I observe ample proofs of volcanic agency, although the author does not seem to attribute these to the real cause; the nature of many volcanic substances not having been so well understood in the period at which he wrote, as it is now. He mentions that there are many hills in the neighbourhood of Hyderabad consisting of trap, which has an appearance of having been once in a fluid state and that many of the granetic hills are covered with this substance. In one particular instance, the hill of Koulas, there

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was a trap vein which had the appearance of having been ejected from below in a fluid state. The elevated table land of Beder consisting of iron clay rests on a substratum of basaltic trap. In the bed of the Godavery there are two hot springs, rising up through beds of trap, one of which is surrounded with blocks of porous, black Limestone—now as to the origin of trap formations, Macculloch states their mineral composition in all fundamental points resembles that of trap formations; during the period however in which he wrote, the dispute regarding the aqueous and volcanic origin of trap was carried on with great acrimony; on consulting therefore later authorities, it is said, that trap formations, like common volcanic products have a tendency to recur in the same spot, also that they contain cavities exactly similar to those observed in the scoriac of volcanoes. The identity of the chemical composition of Basalt and Lava is mentioned, the constant occurrence of trap rocks in volcanic districts; that chalk under a bed of trap has been found converted into granular marble, there are other evidencies, but the above are sufficient to prove the intimate relation between trap formations and visible volcanic products.

V.—Hints for establishing a new system of supplying tanks with water, adapted particularly for the Carnatic, to enable the cultivation of rice and agriculture in general, to be carried to an indefinite extent without being dependent on the fall of rain in any particular district for a supply of water.

By Lieutenant H. Harriott, 36th Regt. M. N. I.

The subject of the following paper is one well calculated to excite a degree of interest in the public mind at any time, but is more particularly deserving of attention at the present period at the close of a season of almost unexampled scarcity and distress occasioned by the failure of the periodical rains.

Throughout the Carnatic there are large and rapid rivers which during some period of the year are filled from bank to bank, and during the remainder are mere beds of sand.

Hitherto the useless waters have pursued their rapid course to the ocean without benefiting the country through which they pass, except in some cases, where the even surface of the plain has been favourable to directing the stream into artificial channels and by that means irrigating a considerable portion of land, but this plan is

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naturally contracted in its operations and it depends on the ingenuity of man to retain those vast floods of water, which now flow by unused and unheeded. It is evident that Providence has ordained that these rivers should answer other purposes than merely being drainers of the land.

Every person travelling through this country must have observed large tracts of fertile and valuable soil yielding no returns but allowed to run waste. The question naturally occurs from whence does this arise, to which the answer invariably received is, a want of water; and it in consequence, becomes an object of the first importance, alike to the government, and to the people, to ascertain by what means the requisite supply of this essential element can be obtained.

The following detail though in itself imperfect, may it is hoped, be the means of attracting attention to this interesting subject.

The few opportunities that have been afforded me of acquiring information on the subject, prevents me from placing the ideas that have suggested themselves to me in so advantageous a light as a more competent person would be capable of doing. I have generally observed that near most rivers and in many cases connected with them, are deep, and extensive ravines. It appears to me that at a small expense, small in comparison with the enormous sums lavished in keeping in repair the numerous tanks throughout the country, these ravines might be formed into basins, capable of containing an immense body of water, the said basins having a canal (the neck as it were attaching the head to the body,) between them and the river, with floodgates to be shut or opened at pleasure, should the nature of the ground be adapted for the purpose, and in most situations such will be found to be the case, the sides of the basin may be elevated considerably above the level of the river. To fill the basin, under such circumstances, a steam engine would be requisite for raising the water from the river and conducting it into its allotted channel. If a forcing pump can raise a volume of fluid to the height of 32 feet by mere manual labour, it will only require an engine of limited powers to throw up water to the extent of 20 feet, allowing 20 feet *below* the surface the full depth will give a fair average of the quantity required, of course the extent of ground to be brought into cultivation will depend on the supply of water that the reservoir is capable of containing, allowing for evaporation, the

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number of cubic feet of water by actual measurement can be ascertained, and a proportionate quantity of ground planted or laid out with the certainty of realizing one or more crops which at present can never be the case whilst dependant on the precarious state of the weather. How often in this country, it may be asked, has the toil of the peasant and the seed been thrown away from the want of a small quantity of seasonable rain to bring the crop to maturity ; so partial indeed is the rain, that whilst one part of the country is comparatively deluged, another within so short a distance as 50 miles is almost dry. This is not the case however with regard to rivers, which flowing through a vast extent of country and in most cases feeling the influence of both monsoons, are certain at some period of the year of containing an abundant supply of water, and should apprehension prevail of a failure of that supply by the river going rapidly down, it will only be necessary to increase the power of the engine to derive additional advantage from it, while it lasts.

When the quantity of water in the reservoir which is above the level of the plain has been expended, the same engine may be employed in raising the remainder—a strict attention to the theory of hydraulics will greatly economise the power to be put in motion. Surely, if the enormous sums expended on tanks under the present system (such for instance as that of Carongooly) can repay with profit to the renter, and advantage to the government, their aggregate outlay, even when four or five successive seasons fail in production, and from what I have been able to ascertain, it appears that only in very favorable years the tank is completely filled, and the whole of the paddy land brought into cultivation, the new system will certainly produce an immense net revenue or interest on the outlay of capital after the payment of the labourer, and the contingent expenses of working the engine. At first from the novelty and difficulty of procuring Engineers the expense of cultivation will be greater than when clever and scientific natives are brought forward, and I am sure there are many to be found both capable and willing after a little instruction to superintend the management of the engines: in proof of this opinion I would adduce the instance of how closely all mechanical improvements from England are copied by the Indian artisan.

The floodgates of the reservoir might be constructed of iron, wrought in the works at Porto-Novo, and fuel for working the engines

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is to be found in abundance in all parts of the country. The paths dividing the plots of paddy ground might be planted with palmyras and cocoanut trees, which during their growth would be useful in many ways and when old could be cut down and cut up into logs for the fires. To prevent evaporation as much as possible, the form of the reservoir should be an oblong oval, the banks or bands turfed and planted with the most umbrageous trees, the roots of which striking into the earth, will give a stability to the soil, whilst the branches shade the water from the direct rays of the sun.

The situations best calculated for the plan of operations here proposed, can be ascertained by consulting the maps of the several collectors which have been framed upon actual survey of the country. It might surely be advisable for the government to take the necessary measures for ascertaining the probable result of the project, but should government decline risking, if risking it can be called where a certainty of gain based on accurate calculations is positively ensured, individual enterprise might, especially at the present time when it is difficult to get any return for capital, find it advantageous to attempt an improvement on the old system, which, from its not having kept pace with the progressive improvement of ages, now yields inadequate returns.—Surely no project can be more deserving of the attention and encouragement of a liberal government, than the introduction of steam engines for the purpose of improving the agricultural process in India, as it will be the means of bringing large tracts of land into cultivation, which are now lying waste, and of rendering these territories independent of requiring foreign aid, as at present, in every occasion of scarcity.

There are numerous other advantages likely to arise from the adoption of this scheme, which are too obvious to require any lengthened comment, and I am sure that every generous mind would rejoice in the prospect of seeing India rise from her depressed state and condition by the very means which has raised England, to her present commercial superiority.

VI.—Note, by a Member, on Colonel Bowler's description of the branched Palmyra trees.

The occassional occurrence of these trees is a frequent subject of surprise and remark, and being apparently inconsistent with the established opinions on the structure and physiology of the family

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of plants to which they belong, the explanation given by a distinguished French Botanist may prove interesting to some of the readers of the Journal. The stipe or stalk of palms is in many respects allied to a bulb and in consequence it is seldom branched, as branches are always produced by the elongation of a bud, which is usually placed in the axilla of a leaf; but in the monocotyledous plants, or those whose seeds are not divided into two portions, these axillary buds almost always prove abortive or remain in the rudimental state as in the palms, and hence the stipe is perfectly simple; but occasionally some of the buds receiving more nourishment than the others become developed, that is to say, the leaves that compose them uniting at their base, form a new stipe, springing from the old. Instances of this may be observed in some species of yucca and in the Cucifera Thebaica (American Palms.) *Richard's Botany.*

Without referring to the interesting discoveries in the physiology of animals, made of late years by a careful study of monstrous productions, it is evident that these anomalies of the growth of Palm trees assist in a remarkable manner the enquirer into the structure of plants of this class, by bringing to light the existence of rudimental parts which might have otherwise escaped detection, and are also interesting in demonstrating the effects of the unnatural or unhealthy execution of the nutritive functions. It should be kept in mind that all branches are truly distinct individuals or the viviparous progeny of the stem on which they are formed, their rudiments existing from the first formation of the germ, till circumstances at some indeterminate period, unfolds it into a perfect branch, and that if the vital energy is unusually augmented the bud may be unfolded into a perfect branch before the natural period in which it would have progressively become so.

The process here described I have witnessed from its commencement in the Palmyra (Borassus Flabelliformis) but the young branch did not appear likely to attain to any size or prolonged existence. The soil was favourable and the trees flourishing. I have also seen the process going on in the common wild date tree (elate silvestris,) where it seemed to arise from the head having been injured and a consequent oversupply of nutrition sent to the other parts.

In the tree No. 2, of Colonel Bowler's sketches, the cause was

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probably irregular action from defective nourishment, the soil being unfavourable. In No. 4, it is probable, that the head had been injured as in the date tree alluded to.

VII.—*At a Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held at the Society's Rooms, at the College, on Thursday evening the 28th November* 1833.

Present.

The Honorable W. Oliver, Esq. *in the Chair.*

Dr. T. H. Davies,	J. A. R. Stevenson, Esq.
Lieut. Col. Napier,	J. G. S. Bruere, Esq.
Revd Mr. Harper,	C. V. Lutchmiah, and
J. Ouchterlony, Esq.	J. C. Morris, Esq. *Secretary.*

The Secretary is requested to read the paper selected for perusal, being a continuation of Lieut. Conner's Memoir of the survey in Travancore.

The Secretary lays before the meeting the following letter from the Secretary to a Society established at the Cape of Good Hope for exploring central Africa.

Sir,

I am instructed by the "Managing Committee of the Cape of Good Hope Association for exploring central Africa" to communicate to you, for the information of the Royal Asiatic Society at Madras, the views with which this Association has been recently established, and the grounds on which they hope to receive such encouragement and assistance from those scientific societies and individuals to whom the objects of their undertaking must necessarily be interesting, as may enable them to effect their purpose in a manner generally advantageous to the public and creditable to the British nation.

In further explanation of the statement contained in the printed papers, which I have now the pleasure of enclosing, I take the liberty of troubling you with the following observations:—

The principal aim of the leader of the expedition, which it is proposed to equip with as much speed as our circumstances may allow, will be to penetrate, if it be found practicable, through the central districts of southern Africa to the Equator—to make himself acquainted with the native tribes located in those parts of the continent thro' which his course will lie and to establish relations of amity

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and commerce with them by which the natural produce of the Interior may be more readily obtained, the demand for British, manufactures and colonial articles increased, and a door opened for carrying the " Glad tidiugs" of salvation to the uninstructed heathen beyond the present limits of missionary operations.

In conjunction with these important objects, the interests of science in many of its most valuable branches will be essentially promoted: the *geographical* situation of the various tribes, the course of rivers, and the principal landmarks, will be determined by accurate observations and correctly laid down for the guidance of future travellers, and the advancement of geographical knowledge in a country to which it has not hitherto extended—the *geological* structure of the rocks and mountains and the quality of the alluvial soil, from which a presumption may be entertained of the mineral riches of the land, and its capability of culture, will be closely investigated and illustrated by a copious collection of instructive specimens;—The field for *Botanical* research in which there is every reason to expect a large accession of new and interesting subjects,—as well as the *animal* Kingdom still unexamined in the vast tropical regions south of the Equator, will be carefully explored; and in each of these departments of natural history no pains will be spared to render the expedition competent to fulfil the expectations which it is calculated to excite among the friends and professors of general science.

Situated as this Colony is with regard to central Africa, great advantages will be enjoyed by persons proceeding on a journey of discovery from hence in as much as they will be enabled to choose the most favourable season, to set forward in possession of the health and strength derived from a most salubrious climate, and with the confidence of being able to return if insurmountable difficulties or noxious regions oblige them to retreat; upon a land of friends and an invigorating atmosphere.

As the success of such an expedition must in a great measure, if not wholly, depend on the qualifications of its leader, the Committee consider that they possess the best security for accomplishing the various objects above enumerated in the character and talents of the gentleman to whom the charge and conduct of the enterprize have been entrusted; and they have no doubt that he will receive every support and assistance in his arduous undertaking from those individuals who have been or may be appointed to form his company and divide his labour.

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The sum of money at present raised in the Colony about £ 600, is by no means adequate to the fitting out and sustaining of the Expedition upon a scale large enough to warrant anticipations of accomplishing all that has been above referred to as included in the proper scope of such an experiment, and no great addition to this sum can be expected from private sources.

As therefore, the objects of the intended expedition into central Africa regard not only the benefit of this Colony and of the native tribes in the interior, but the promotion of moral and natural science in general, in a new and deeply interesting sphere:—as the greatest probability exits of its being able to explore a country fruitful in the works of nature and unknown to former travellers, and thereby of reaping a rich harvest for the advantage and information of the British public—the Committee feel justified in soliciting the aid of public bodies and individuals in Great Britan and India, to enable them to carry on their operations and to take such measures as may best serve the accomplishment of their design.

The Committee request that you will be good enough to lay their communication before the Royal Asiatie Society of Madras, and to make known their views to any such scientific persons within the presidency as may be likely to take an interest in their proceedings.

I would beg the favour of an answer at your earliest convenience as the Expedition must necessarily leave Cape Town early in next year, and it is most desirable that the extent of its means should be ascertained previous to its departure.

I have the honor to be, Sir,
your faithful obedient servant,
(Signed) E. G. Burrow, D. D.
Secretary for Correspondence.

Resolved, that the foregoing letter and the prospectus which accompanied it be circulated to the members of the Society, with a Book soliciting donations in support of the undertaking.

The thanks of the Meeting were voted to the Honorable the Chairman.

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VIII.— METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughton.						
	Sun Rise.	10 A. M.	App. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	App. Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,096	30,138	30,110	30,067	30,068	——		76,0	80,1	81,3	83,2	81,2	----	
2	,090	,166	,126	,078	,074	30,118		78,0	78,0	77,6	78,5	78,5	79,0	
3	,090	——	,110	,078	,064	,086		79,9	81,6	83,0	82,1	81,0	80,5	
4	,062	,112	,087	,030	,028	,056		77,3	81,6	83,0	81,8	80,7	80,0	
5	,062	,114	,094	,038	,042	,100		76,8	81,6	83,0	83,[illegible]	81,0	80,8	
6	,082	,124	,102	,044	,054	,084		75,8	79,0	81,0	82,7	79,9	79,9	
7	,078	,128	,108	,044	,052	,074		78,0	81,1	82,0	82,2	80,0	79,5	
8	,062	,132	,102	,052	,052	,074	30,12[illegible]6	76,4	80,0	79,0	81,5	80,0	78,8	78,7
9	,088	,138	,132	,080	,060	,088	,100	74,0	80,0	81,1	81,1	79,3	78,1	77,8
10	,072	——	,100	,042	,062	,078		75,0	----	82,0	78,3	77,8	77,5	
11	,060	,108	——	,038	,072	,084		77,8	81,0	----	81,6	78,8	79,0	
12	,076	,149	,130	,056	,072	,1[illegible]8		77,7	79,0	80,6	80,4	77,7	76,8	
13	,062	,145	——	,022	,042	,094		77,2	79,2	----	79,8	79,0	79,0	
14	,064	,090	,070	,032	,040	,062		78,0	80,9	82,0	81,0	80,4	78,0	
15	,040	,072	,050	,018	,022	,060		77,0	80,0	81,0	81,1	79,9	79,8	
16	,060	,090	,056	,044	,058	,066		77,0	80,5	81,0	82,0	80,4	79,0	
17	,060	——	,098	,058	,076	,100	,104	75,9	----	80,9	81,8	79,5	78,0	78,9
18	,060	,152	,130	,060	,068	,108	,134	75,8	81,2	82,0	82,3	80,0	79,1	79,7
19	,100	,190	,178	,132	,144	,180	,188	79,0	82,0	82,8	82,5	80,3	80,0	79,7
20	,168	,200	,176	,149	,156	,173	,188	76,5	81,9	82,1	82,6	80,0	79,2	78,9
21	,156	,186	,168	,132	,138	,152	,160	74,5	80,2	80,9	82,0	79,0	76,9	75,6
22	,134	,162	,148	,128	,128	,136	,152	75,0	80,1	81,0	81,8	79,3	78,5	77,5
23	,140	,188	,166	,150	,136	,150	,158	72,0	79,9	81,0	81,6	79,5	78,7	77,5
24	,150	——	,164	,140	,136	,150	,152	73,5	----	81,2	81,3	79,5	79,0	79,2
25	,136	,164	,150	,134	,140	,150	,150	79,2	82,7	82,8	82,7	80,5	79,9	79,6
26	,134	,166	,152	,136	,140	,156		78,0	76,5	76,4	77,0	79,0	79,0	----
27	,140	,176	,162	,134	,138	,138		78,0	80,4	80,9	81,0	79,2	79,0	----
28	,138	,162	,148	,136	,126	,128		77,6	81,5	82,0	81,9	80,0	79,7	----
29	,116	,150	,132	,118	,118	,136		78,3	80,9	82,0	81,6	80,2	78,9	----
30	,132	,162	,150	,132	,126	,134		79,1	80,6	80,8	80,6	79,2	79,0	----
Mean	30,077	30,145	30,125	30,084	30,088	30,112	30,147	76,8	80,6	81,2	81,4	79,7	79,0	78,5

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OBSERVATORY; FOR THE MONTH OF SEPTEMBER 1833.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	App. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	o	o	o	o	o	o	o	Ins.	Ins.	Ins.		
1	8,8	12,0	14,0	15,5	7,0	7,7		,229			S E. S W. N W.	Most. cloud. light.
2	8,5	13,1	14,5	16,3	15,0	14,9	13,7				S W. N W.	Do. Do.
3	10,1	12,9	16,0	16,3	14,8	11,3					Do.	Do. Do.
4	7,5	12,1	12,4	12,3	10,6	7,0		,187		2,347	Do.	Do. Do.
5	4,8	7,0	9,0	9,8	7,0	4,5	4,7				Do.	Gen. clear Do.
6	6,0	12,3	11,9	14,6	6,2	5,9					Do.	Cloudy.
7	5,5	9,6	14,4	10,3	8,0	8,0	7,2				Do.	Do. rain at night.
8	4,9		9,8	12,6	5,2	4,9	4,2	,090	1,264		Do.	Day cl. hvy. rn. af.
9	4,6	7,2	6,0	8,6	5,0	5,0	4,4				Do.	Do. vivid light.
10	4,0	5,3	5,5	6,5	4,7	2,8	3,9	,001			S. & S W.	Do. Do.
11	4,0	4,0	6,5	6,4	6,0	4,8	4,0			1,764	Do.	Do. Do.
12	3,3	5,4	9,1	7,6	3,9	5,8	4,0				S W. W. N W.	Clear af. clou. do.
13	4,8	7,1	5,6	7,4	5,0	3,8	3,5		,132		Do.	Do. vivid Do.
14	3,6	7,1	6,8	7,0	4,9	4,4	4,0				Do.	Do. Do.
15	5,1		7,0	8,9	6,3	5,7	5,0				Do.	Do. Do.
16	5,7	8,4	9,3	7,0	5,0	4,1	4,7				Do.	Cloud. th. & lig.
17	5,1	7,7	5,6	5,8	3,2	5,5	4,1		,431		Do.	Do. Do. Do.
18	4,7	7,5	7,6	10,4	4,2	2,9	3,4	,017		2,510	Do.	Do. Do. Do.
19	4,7	6,5	9,2	6,9	6,7		5,6				Do.	Do. Do. Do.
20	4,5	4,8	6,8	8,4	5,8	4,2	5,0	,782			Do.	Clear Do.
21	9,5		8,4	8,3	5,7	5,0	3,5				Do.	Do. Do.
22	6,0	6,8		6,3	6,0						Do.	Cloudy Do. Do.
23	5,8	6,9	8,7	9,2				,020			Do.	Do. Do. Do.
24	5,0	6,7		8,9	7,5	6,6	6,0	,263			S W. & W.	Mostly Do. Do.
25	5,2	11,3	13,7	14,8	8,0	6,8				1,236	Do.	Do. Do.
26	8,3	9,9	11,0	12,5	11,2	7,0					Do.	Do. night cl. Do.
27		11,2	13,8	14,6	9,0	7,3	5,8				Do.	Do. Do.
28	8,8	11,6	11,6		5,9	11,7					S W. & N W.	Cloudy Do.
29	10,5	13,5	14,3	17,0	14,3	12,1					W. N W. S W.	Mostly cloudy
30	8,4	11,5	15,3	17,0	12,0	8,5	6,5				W. N W. & S.	Mostly clear
Mean	6,1	9,2	10,1	10,6	7,2	6,6	5,1					

Total depth of rain during the month 3,476 Inches.
Evaporation 8,417 „

METEOROLOGICAL REGISTER kept at the MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughton.						
	Sun Rise.	10 A. M.	App. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	Aft. Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	29,902	29,950	29,915	29,858	29,832	29,872		84,3	89,1	90,0	92,0	84,0	83,2	
2	,888	,933	,886	,838	,836	,856		85,7	88,4	91,0	94,0	93,0	90,0	
3	,882	,906	,897	,832	,828	,884		82,5	89,8	91,6	95,8	87,3	88,6	
4	,870	,888	,872	,800	,808	,832	29,862	84,0	89,5	93,0	94,6	88,5	85,3	84,0
5	,854	,884	,892	,801	,820	,864	,882	84,0	91,1	94,1	89,4	88,6	86,9	85,9
6	,885	,910	,892	,828	,856	,916	,928	83,[illegible]	88,3	89,0	86,0	85,1	83,8	84,0
7	,910	,952	,914	,856	,856	,896	,912	81,3	86,0	88,4	80,2	84,2	83,2	82,8
8	,906	,952	,934	,860	,885	,890	,938	81,0	83,8	86,5	84,8	83,5	82,8	82,8
9	,908	,952	——	,856	,858	,922	,948	79,5	82,0		84,1	82,0	81,8	81,1
10	,928	,984	,962	,904	,922	,944	30,006	80,0	82,9	84,0	83,8	82,5	80,5	81,3
11	30,013	30,050	30,038	,990	,970	30,024	,050	79,0	83,8	85,0	85,3	83,0	82,3	82,6
12	,034	,060	,048	30,000	,994	,031	,050	80,0	84,4	85,8	85,0	82,9	82,0	81,2
13	,032	,042	,013	29,950	,940	29,978	,028	80,0	84,1	85,9	86,0	83,3	82,1	82,[illegible]
14	,016	,060	,036	,990	,950	,392	,004	79,5	83,9	87,0	85,6	83,3	82,4	82,2
15	,038	,066	,048	,988	,970	30,018	,052	82,0	85,9	88,0	86,8	84,2	83,6	82,8
16	,014	,058	,036	,996	30,002	,020	,050	81,0	85,6	87,9	87,0	84,9	83,3	83,0
17	,012	,054	,039	30,000	29,988	,016	,050	80,0	85,7	87,0	86,0	85,0	84,[illegible]	83,8
18	,020	,062	,036	29,980	,992	,034	——	80,9	85,3	86,9	85,4	83,7	83,[illegible]	
19	,042	,088	,074	30,034	30,030	,080	,084	79,5	85,7	85,6	85,0	82,9	81,5	82,1
20	,120	——	,142	,108	,114	——	,162	80,0		84,0	85,8	84,0		82,0
21	——	——	——	,126	,118	,136	,174	79,0	85,0	86,2	87,1	84,1	83,[illegible]	82,5
22	——	——	,168	,092	,086	,110	,124	80,9	82,8	84,0	86,9	83,5	83,0	81,7
23	,110	,164	,150	,116	,086	,110	,138	79,2	83,8	86,5	86,8	83,0	82,1	82,1
24	,136	,176	,167	,148	,131	,100		76,5	85,0	86,9	87,3	84,0	81,8	
25	,194	,216	,180	,148	,086	,108	,140	80,0	78,0	82,0	83,3	81,5	80,9	80,9
26	,144	,178	,158	,088	,035	,084	,088	78,0	83,6	83,0	84,1	82,6	82,0	82,4
27	,084	——	,087	,038	29,990	,026	,044	79,5		82,9	80,7	80,8	81,0	81,0
28	,042	,092	,082	,006	30,018	,046		78,0	79,8	81,5	80,9	79,9	80,0	
29	,030	,084	,034	29,995	29,998	,022	,052	77,8	77,8	77,0	84,0	80,2	79,5	79,7
30	,080	,130	,100	30,054	30,062	,102	,114	77,5	80,6	81,5	81,9	80,0	79,2	79,6
31	,098	,124	,112	,084	,064	,102	,116	76,0	79,6	83,0	82,0	80,9	78,8	79,0
Mean	30,007	30,041	30,030	29,968	29,967	30,000	30,044	80,3	84,5	86,2	86,1	83,7	82,4	82,1

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OBSERVATORY; FOR THE MONTH OF OCTOBER 1833.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	App. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		
1	9,3	12,9	15,2	17,5	5,7	5,0				2,708	S W. N W. N E.	Flying clouds
2	9,9	13,2	15,2	19,3	19,2	15,3					W. N W. S W.	Mostly clear
3	8,0	18,3	14,3	19,6	10,6	11,4					Do.	Do. lightning
4	7,9	15,1	18,2	16,7	9,7	8,6	7,2				W. S W. S E.	Do.
5	8,0	10,8	16,5	0,5	9,6	6,7	8,5		,010		N W. N E. S E.	Cld. thun. & lig.
6	6,2	11,3	9,2	8,2	5,6	4,9	4,7				Do.	Do. Do.
7	6,3	7,1	11,[illegible]	3,2	6,5	5,3	3,8				Do.	Do. Do.
8	4,6	6,8	9,2	6,4	6,6	4,8	4,0	,410		2,994	Do.	Do. loud th. & li.
9	4,0	5,0		5,1	3,6	3,8	4,1	1,917			Do.	Do. Do.
10	4,2	5,1	6,[illegible]	5,9	3,3	2,7	4,0	,541			Do.	Do. Do.
11	3,6	5,7	5,2	6,3	4,5	4,4	3,8				S W. S E S.	Gen. clear Do.
12	3,9	5,4	6,0	7,0	4,9	3,9	4,2				Do.	Do. Do.
13	4,0	6,9	7,1	7,0	6,4	5,5	4,2				Do.	Do. Do.
14	4,8	6,5	8,8	7,4	5,3	4,4	3,6				Do.	Do. Do.
15	5,3	7,6	9,0	7,1	5,0	4,3	3,5			1,361	Do.	Do. Do.
16	5,5	7,9	10,8	10,0	7,8	6,3	4,0				Do.	Do. Do.
17	3,3	8,7	8,2	8,8	7,5	6,2	5,1				Do.	Do. Do.
18	4,6	7,2			6,7	4,6		,270			Do.	Do. Do.
19	3,8	8,0	8,0	6,8	6,4	5,4	3,5				Do.	Clouded Do.
20	3,2		5,0	7,6	6,2		5,0		,209		E. S E. S.	Do. Do.
21	3,2	7,9	7,2	9,1	7,0	6,1	2,8				W. N W. S E.	Do. Do.
22	4,2	7,2	8,0	11,1	7,8	6,2	5,4			1,451	N. N W. N E.	Thick hazy Do.
23	3,6	7,1	10,1	14,0	8,3	7,3	7,3				W. E. N E.	Mostly clear Do.
24	2,2	8,3	8,8	10,4	7,0	3,0					N W. N E. S E.	Do. th. li. hy. rn.
25	3,4	2,9	6,8	7,3	5,1	4,9	4,8	3,375	,174		N W. E. N E.	Clouded
26	2,2	5,5	5,1	4,9	5,9	4,7	4,7	,167	,302		N E. S E.	Do thun. & light.
27	3,7		4,7	4,2	4,8	4,3	3,9	,118	,503		S W W. N. N E.	Do. Do.
28	3,2	4,7	4,9	5,4	6,1	5,8		,045	,208		N W. N E.	Do. Do.
29	3,3	3,4	2,3	10,8	3,8	3,5	3,7		,368	1,406	Do.	Do. Do.
30	3,5	4,8	4,5	6,3	5,0	4,2	4,2	,334	,035		Do. & S E.	Mostly cldy. light.
31	2,0	3,6	5,3	6,0	5,9	4,3	7,6	,272	,471		Do. Do.	Do. Do.
Mean	4,7	7,6	8,6	9,0	6,7	5,6	4,7					

Total depth of rain during the month 9,729 Inches.
Evaporation 6,988 „

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METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No 3. by Gilbert.							Standard Barm. by Troughton.						
	Sun Rise.	10 A. M.	Dep. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	Sun Rise.	10 A. M.	Aft. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	29,918	29,936	29,916	29,864	29,828	29,850	——	83,5	86,9	89,9	92,9	86,8	87,2	
2	,920	,940	,912	,850	,836	,860	29,924	83,3	88,8	90,7	92,8	91,8	89,8	87,2
3	,922	,950	,930	,890	,860	,878	——	85,0	87,8	91,0	92,8	90,6	86,3	
4	,920	,940	,928	,886	,874	,918	——	84,5	87,8	89,3	91,1	88,8	86,3	
5	,896	,944	,924	,882	,850	,860	,890	81,3	85,0	87,0	88,7	85,0	82,8	82,0
6	,872	,920	,908	,868	,834	,840	——	82,8	87,0	90,0	92,5	86,1	83,9	
7	,842	,876	,868	,818	,804	,832	,840	82,0	85,0	89,0	88,0	85,0	83,8	83,6
8	,842	——	,834	,794	,782	,808	,822	81,8		86,8	90,0	84,2	81,9	81,4
9	,826	,900	,876	,814	,808	,860	,906	80,9	84,6	85,0	85,0	83,3	83,0	82,9
10	,904	,956	,940	,898	,878	,896	,952	81,0	84,8	85,9	86,8	84,1	83,0	82,9
11	,923	,964	,952	,886	,860	,918	,964	82,3	86,8	86,7	86,5	85,0	83,8	82,8
12	,950	,994	,966	,912	,890	,916	,956	80,9	85,0	87,9	87,8	84,6	83,0	82,9
13	,920	,960	,951	,912	,864	,903	,944	82,8	85,0	85,3	86,6	83,0	82,5	82,4
14	,918	,972	,942	,866	,834	,894	,906	81,0	86,0	86,4	86,0	83,0	82,4	82,0
15	,892	——	,904	,858	,836	,862	,907	80,3		86,4	88,6	84,1	83,5	83,0
16	,892	,950	,920	,850	,828	,898	,914	80,6	85,0	87,2	85,9	83,0	83,0	82,5
17	,874	,934	,892	,846	,860	,874	,891	81,6	87,0	84,2	83,7	83,0	82,0	81,8
18	,852	,886	,866	,826	,830	,868	,890	81,5	85,0	87,0	89,5	84,0	82,8	82,4
19	,870	,910	,900	,848	,830	——	,928	79,9	82,9	86,2	85,7	83,7		81,8
20	,948	30,032	30,000	,934	,914	,928	,974	81,2	83,0	84,3	86,5	83,8	82,0	77,0
21	,958	——	29,980	,907	,898	,910	,962	83,9		85,2	86,3	83,5	83,0	82,7
22	,926	29,952	....	,900	,884	——	——	81,0	82,0	....	85,3	85,0		
23	,922	30,004	,942	,902	,876	——	——	81,8	82,5	84,8	85,4	84,2		
24	,934	29,966		,890	,890	,922	,952	80,2	82,4		84,9	84,8	84,2	83,0
25	,928	,974	,964	,904	,880	,910	——	80,6	86,0	88,2	90,0	85,0	84,7	
26	,942	,980	,943	,860	,854	,893	——	83,0	86,0	87,0	89,5	90,0	84,8	
27	,902	,950	,918	,840	,842	,868	,894	82,0	86,7	89,0	90,8	90,0	83,8	85,5
28	,840	,919	,887		,822	,860	——	83,7	87,0	89,6		90,0	88,7	
29	,848	,912	,896	,860	,864	,864	——	85,0	88,0	90,2	92,5	90,0	88,0	
30	,898	,950	,942	,888	,886	,896	,916	84,4	88,7	91,6	93,9	90,0	87,0	84,5
Mean	29,900	29,947	29,921	29,871	29,853	29,881	29,917	82,1	85,7	87,6	88,5	85,8	84,3	82,7

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OBSERVATORY; FOR THE MONTH OF NOVEMBER 1833.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise	10 A. M.	Aft. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		
1	2,5	3,3	4,2	6,0	4,9			,086	,104		N. N. E. E.	clouded light.
2	3,0	2,0	1,8	2,3	1,9	2,0		,288	,784		Do.	Do. Do.
3	3,9	4,0	7,5	5,9	6,4	4,7		,979			Do.	Do. Do.
4	2,8	7,1	8,9	8,0	5,4	5,0					N. W. N. E. N.	Do. Do.
5	2,5	5,5	6,0	5,7	3,0	4,8			,004		N. E. N. N. E.	Do.
6		3,5	3,4	4,9	4,0	4,8		,222	,069	1,190	N. N. W. N. E.	Do.
7	3,0	3,9	5,8	6,0	3,9	3,5		,549	,062		N. N. E.	Do.
8	1,9	4,9	3,5	5,5	4,0	7,0	6,4	,035	,556		N. W. N. E. N.	cloudy. clear light
9	3,0	5,3	6,3	3,3	2,8	3,6	2,9				N. N. E. E.	Do. Do.
10	2,0		5,7	3,1	2,2	2,2			,590		Do.	Do. heavy rain.
11	2,8	3,0		5,6	4,1	3,8		2,347	,160		Do.	Do.
12	4,7	2,7	4,4	4,1	3,1	2,4		,003	,694		Do.	Do.
13	2,7	4,1		3,7	3,8	3,5		,017	,451	1,000	Do.	Do.
14	3,0	4,3	4,8	4,4	4,6	3,7		,090	,090		E. N. E. N.	Do.
15	2,5	4,2	4,7	5,3	5,6	4,8		,052	,028		Do.	Do.
16	3,3	4,1	4,5	7,0	5,1	3,4		,729			Do.	Do.
17	2,2		5,7	3,8	6,9	4,0	6,9				Do.	mostlycloudy clear
18	4,5	6,7	7,1	7,3	7,7	7,1	5,5				Do.	Do.
19	6,5	7,0	7,3	8,4	6,5	7,0	6,7				Do.	Do.
20	3,6	8,3	8,4	9,4	8,0	7,3	6,9			1,600	Do.	Do.
21	3,8	6,5	7,9	10,2	8,0	6,1	5,6				Do.	clear throughout.
22	4,6	9,8	10,0	9,6	8,0	8,3	6,8				N. W. N. E. N.	Do. Do.
23	2,9	8,4	8,0	5,6	4,5	4,7	5,2				Do.	Do. Do.
24	3,5		4,5	5,4	7,6	7,2	6,0				N. W. N. E. E.	clouded.
25	4,7	4,5	6,9	6,7	9,3	4,9	4,0		,069		N. E. S. E.	cloudy.
26	3,8	2,6	1,7	2,3	5,0	5,2		,031	,778		N. N. E. E.	Do. thunder.
27	4,7	6,9	6,7	7,1	6,2	6,1				1,962	Do.	Mostly cloudy.
28	5,6	7,6	8,0	8,1	7,0	5,7					Do.	Do. Do.
29	6,4	7,9	8,0	8,9	6,4	4,1					Do.	Do. Do.
30	5,3	6,0	6,2	6,4	6,2	6,1		,035	,021		Do.	Do. Do.
Mean	3,6	5,3	6,0	6,0	5,4	4,9	5,7					

The depth of rain during the Month 9,923 Inches
Evaporation 6,162 „

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The instruments used in the foregoing observations are placed upon a table 3 feet high in the western verandah of the Honourable Company's Observatary; from the Mean of five Barometrical measures lately made the floor of the verandah appears to be *about* 26 feet above the level of the Sea (not 45 as was before erroneously supposed.) The barometrical indication are those read off from the instrument, without any reduction for corpillary action or temperature; for the former, the correction answering to 0,20 inches diameter or +, 059 inches should be employed—The Madras Observatory is situated at about two miles from the sea in longitude 5 Hours 21 Minutes 9 Seconds east of Greenwich and 13 Degrees 4 Minutes 9 Seconds north Latitude.

T. G. TAYLOR,
H. C. Astronomer.

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MADRAS JOURNAL

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LITERATURE AND SCIENCE.

No. 3.—*April,* 1834.

I—*A Sketch of the History of the Ramoossies residing in the Sattarah Territory and in the Poona and Ahmednuggur districts—By Captain Alexander Mackintosh of the 27th Regt. M. N. I. Commanding Ahmednuggur Local Corps.*

CHAPTER I.

Introductory observations.—The origin and migration of tribes.—That of the Ramoossies involved in obscurity.—The limits of the country over which they are dispersed.—The origin of the tribe and that of their name variously explained.—The tribe divided into two main branches or clans.—Two minor families have sprung up since they crossed the Neera.—The number of the tribe.—The remnants of their language.—Their employment as Rukwalldars or village guardians.—The nature of the duties they have to perform.—The lands and emoluments they enjoy.

We are frequently induced, either by motives of interest or curiosity, to inquire into the character and language, the manners and customs of the inhabitants of a new, or foreign country, whose history is imperfectly known to us, although the result of our researches may prove neither entertaining nor satisfactory. The nature of the appointment I have held for many years past, having necessarily brought me frequently in contact, I might say, in hostile collision, with that portion of the population of the Dekhan commonly distinguished as the predatory tribes, viz. the Bheels, Kolies, and the Ramoossies, and having been recently occupied in suppressing a disturbance in the country around Poona, caused by the latter tribe, I am induced to attempt to give an account of them, in the hope that it may not be unacceptable to those who take an interest in such matters.

It is generally remarked, that the history of the origin and migrations of almost every tribe and nation, is more or less involved in

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obscurity and contradiction, and this is the case with that of the Ramoossies.

The race of people known by the name of Ramoossies, reside chiefly in the outskirts of the towns and villages, in the vallies of the Maun, Neera, Bheema, and Pera rivers, and in the adjoining plains and highlands—within the dominions of His Highness the Rajah of Satara, and the Poona and Ahmednuggur collectorates.

The tract of country over which they are dispersed, is nearly two hundred miles in length; and throughout the Satara territory, and the southern portion of the Poona district, it varies from eighty to about one hundred and twenty miles in breadth—becoming much narrower as we approach the northern limits in the vicinity of Nassik, on the banks of the Godavery—so that the part of the country in which they reside, lies within the 17° and 20° of N. latitude, and 73° 40′ and 75 40′ E. longitude.

It may be observed, that although in several of the Poorans, (the Pudma, Bhruma, Wywurt, Skund, &c.) and the Bhruhud and Lughoo Jatveeweks, a slight genealogical notice is taken of the mixed tribes of Hindoos, the term Ramoossy is not mentioned in either of them. Bharoor is the Sanscrit word applied to the Ramoossies in the Jatveewek, a work principally compiled from extracts from the Poorans.

A short extract from each of the before mentioned Poorans, which are supposed to allude to the origin of these people, might be given here, but as different learned Brahmins, well versed in the shastres, agreed that the account in the Jatveewek is the true one, I shall only insert it.

" The children of a Shoodur (4th class) father, and a Brahminy mother, are designated chandall, (the lowest of the low,) and those of a chandall father and a Eckshuttry (2d class) mother, are termed Dombh: again, the offspring of a Shoodur father and Vyse (3d class) mother, is termed Neeshaad—then the children of a Neeshaad father and a Shoodur mother are known by the name of Poolkussy; and lastly, the children of a Dombh father and Poolkussy mother are called Bharroor, whose profession it is to guard villages, and to warn the inhabitants of any approaching danger."

It is conjectured that the Ramoossies, from having originally lived at a distance from villages, must have been termed Raan-vussy, the resident of waste, or desolate lands, from raan, a waste, a desert, a wood, and vussy, residing; and the harsh appellative of Raan-vussy, was converted, in the course of time, into the more

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euphonical one of Ramoossy. Again some of them maintain, that the name of Ramoossy is derived from Ramvounssy the descendants of Rama; that he created them when he was passing through the Dekhan to Lunka, (Ceylon) in search of Seetah.

The Ramoossy ranks very low among the Wurunu Shunkur, or mixed classes, and far beneath the Poolkush, or Dongry Kolcy, but before the Holar, Mhar, Mang Dhour, &c. These last the Ramoossy scrupulously keeps at a respectful distance. There appears to be no record in existence, from which any information respecting the habits and customs of this tribe is to be obtained:—such information as is attempted to be given here concerning them, was gained entirely by long direct personal intercourse with the tribe, and especially with the most intelligent of the aged men. They have considerable reluctance, in communicating an account of their habits and customs to persons they are unacquainted with, although they appear to have nothing very peculiar to them, that is not common to the other predatory tribes. Their backwardness in this respect, may possibly be partly owing to prejudice, and either self-pride or self-interest, originating in their being generally more civilized, and therefore unwilling they should be supposed capable of committing the atrocities for which they are notorious, and partly from the apprehension that they themselves might become too generally known, and consequently attract the attention of the ruling authorities, which might lead to their being placed more closely under the surveillance of the Police, and that, ultimately, the principal although unlawful source from which the majority of them had been in the habit of drawing a subsistence from time immemorial, would be shut up against them.

By some of the inhabitants, the Ramoossies and Berrurs, or Berdurs, are looked upon as one and the same tribe; but it may be presumed, that their considering the two terms synonimous, arises from the great similarity of pursuits and habits that exists between these two classes. Admitting even that they were originally one and the same tribe, they are at present, and have been for ages, a distinct people.

The Berdurs who inhabit the district of Soorapoor, and are spread over the country east and south of Bejapoor, and the banks of the Toomboodra river, hold no intercourse whatever with the Ramoossies who reside in Maundesh, the district east of Satara, nor do the oldest men among the Ramoossies recollect having ever heard, that their fathers considered the Berdurs, and the Ramoossies, as being

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of the same descent or stock, or that they ever formed matrimonial connections with each other; and as far as my information goes, the opinion of the Berdurs themselves corresponds with that of the Ramoossies on this point.

The tribe of Ramoossies appears to be divided into two main branches, or families, the one being denominated the Chowan, and the other the Jadoo. From these two intermarrying, numerous families have sprung up, but all of them are reckoned to belong to, and to be the offspring of, the two main branches respectively, although they have adopted various other surnames. They are equally scrupulous and tenacious, in adhering to the prescriptive rules of their tribe in this respect, as the higher and more pure orders, never to marry a person of the same kool, or gottur, (family,) as themselves, consequently, the different families of the Chowan stock, considering themselves the descendants of the same parents according to Hindoo usage, never form matrimonial connections with each other; and the same rule stands good with regard to the Jadoo, and the families constituting that branch.

Enumerating their different surnames, I find there are now about one hundred and twenty-five; but as these surnames were adopted, evidently from assuming the name of the village they were born in after they had quitted it, to reside in some other, the original surname was abandoned, and the new cognomen became familiar, and the only one used—or some other name was applied, suggested by some peculiarity in the appearance of a man, such as Assgurry, the large man; Neekary, the man without a beard; and again Shelky, from a man having turned a goatherd.

The following are the surnames of a few of the families of both branches. First: The Chowan; from whom has sprung the Bhanddollkur, Goregul, Shellky, the Keersagur, Assgurry, Koolooch Kurrally Goorkool, Waghmary and Sulkkry, &c. &c. Secondly: The Jadoo, with its descendants the Khomney, Mundly, Goury alias Makur, Yellmur, Jhuppurdy, Langgu, Sheretore, Bhorrdah, Tuttlay, &c.&c.

Since the Ramoossies, however, have crossed to the north bank of the Neera river, two minor and distinct families have sprung up among them. The first is the Rorray Ramoossies of Sonouray, near the Devy Ghaut; and the other, the Goorgool.

The Rorray is said to be an adopted son of the Bhandolkurs, and he, consequently, forms no marriage connection with the Bhandollkur, the Shellky and Koolooch of the Chowan family stock;

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but he intermarries with the Chowan and the remaining families of this stock; as well as with the Jadoo, and all the families of that branch.

The Goorgool is an adopted son of the Chowans. He therefore does not intermarry into the Chowan family, but he does into all the other families of this branch—and into the Jadoo, and all the families of that stock.

The Goorgool might have been an infant of some one of the four principal classes of Hindoos, and reared in the Chowan's house, and subsequently admitted into the Ramoossy caste; and, very probably, the Rorray family originated in the same manner—or he might have been the offspring of a Bhandollkur, and a Shelky by illicit intercourse, but admitted into the caste after the parents had performed the required penance.

The Chowan is considered the most eminent and pure of the Ramoossies; therefore, on all occasions of ceremony and the adjustment of affairs of importance, connected with their caste, the Chowan Naik obtains the precedence, and the presence of one of them is always deemed necessary on such occasions.

From register rolls prepared for me by the native local authorities of all the districts in the Satara territory, and in the Poona and Ahmednuggur collectorates—and, from information communicated by members of the tribe, tables have been drawn up to show the number of Ramoossies, both hereditary and temporary residents (Oopries) of villages, above the age of sixteen years, with an account of the lands they enjoy in Enam, (or freehold,) as well as the amount of their pay and the other perquisites they receive; from this return, it appears there are 3,011 men in the Satara territory, 1,949 in the Poona, and 573 in the Ahmednuggur collectorates, exclusive of 203 Holgah Ramoossies along the banks of the Seena river. Two or three Enam, or foreign villages, may have escaped enumeration, and there are a few Ramoossies settled in His Highness the Nizam's villages, on the western boundary of the Ahmednuggur and Poona districts.

According to tradition, the districts around Kuttow, Musswur, Malloura, Nullgoond, the hill fort of Mymungur, in Maundesh, and east of Satara, also the town of Phultun, are the tracts in which the first traces of the tribe are found, and there can be little doubt, that their permanent location there must have occurred many hundred years' ago.

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They are at present in greater numbers in the Kuttow district, than in any other over which they have spread themselves. There are one hundred and fifty-six villages, and the number of Ramoossies above the age of sixteen years, is one thousand and sixty-three. From Kuttow they subsequently extended westerly into Waidesh, and along the Phultun desh, (the district on the south bank of the Neera,) and, latterly, they crossed the Neera into the Poona district.—Hereafter notice will be taken of their occupying the Poorunder hills,—of their moving across the Bheema, and of their advance towards the Godavery, as far as Sinnure and Nassik, in the collectorship of Ahmednuggur.

In the small district of Pabull, north of Poona, there are fifty-one Government villages, and the population of them amounts to about 33,950 souls ; there being males grown up, 10,747, boys 7,474, women 11,547, and girls 4,182. Now, the Ramoossies in the district residing in these fifty-one villages, including men, women, and children, only amount to 340, of these 108 are males above sixteen years of age ; and 69 boys, and the remainder 163 are women and girls.

By the aggregate of these returns we find that there are 5,636 Ramoossy males above sixteen years of age—we might add about two hundred more grown up men to this number, as residing in the Nizam's or other foreign villages within our own boundary, that may have escaped enumeration—Now by the return from Pabull, we find, that the proportion of women and children of both sexes to the grown up males, is very little more than three to one, and, calculating on this principle, we might reckon that the whole population of the Ramoossies did not much exceed 18,000 souls.

It is very probable that this tribe originally migrated from some part of the ancient kingdom of Telingana, probable east or south east of the present town of Hydrabad ; because, in the scanty remains they have of a distinct language, many of the words evidently belong to the Teloogoo, and it might have been a dialect of that tongue. While their funeral rites and ceremonies of purification bear a great analogy to those of the Linggaiuts, of whom the Jungums are priests, and in the part of the country in which the Ramoossies at present reside, few of the Linggaiut persuasion are to be found. These are more to the east and south east.

A considerable diversity of customs and languages would, in the course of ages, be naturally introduced among them ; and, in fact, the amalgamation of the Ramoossies with the inhabitants of the

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Mharata country has been such, that their original language has been nearly lost,—few of them being able to express themselves in it, and then only in short sentences. It is seldom used by them except when busily employed in plundering, or when they wish to communicate something secretly in the presence of other persons. They will then endeavour to express themselves as well as they can in their own language,—otherwise, they merely introduce a few necessary words in their conversation in Mharata, so as to prevent those present from discovering what they are talking about.

They appear to have been very cautious in preventing their language from becoming known to any other persons than those of their tribe; for, all that the inhabitants know, is, that the Ramoossies have a language peculiar to themselves, and with which the other members of the community are unacquainted.

They have often addressed themselves to me in this language, when they were anxious that I should interrogate any person present on any particular subject; but more especially when they wished to obtain a favour for themselves; or when they were interested about any of their friends that were involved in difficulties. The following is a specimen of it.

The words to which a cross is affixed are evidently Teloogoo. They frequently use the plural number instead of the singular.

A man, Machull
An old man, Moodor†
A woman, Ardub, Artool† Peteet
A European, Arnall
A Brahmin, Parggiah
Moosullman, Malour
A Dhere, or Mhar, Shydoll
A Mang, Ambooj
A merchant, Bumgger
A Ramoossy, Boyill, Boiggiah
A thief, Mootch†
A robbery, (Durrorrah) Tutch
A house, Gooroos,
Bread, Koormull †
A meal, Taglah
Tobacco, Pogguh †
A hare, Koodull †
A deer, Seekull
A hill, Gooduck †
Goor, (sugar) Bellum *
Gold, Nenne
Day, Phukkut
Silver, Dumkut
Night, Ryne †
Pyse, (copper coin) Moorull
Hot, Ley Seeth
Cold, Bujoty
Fire, Seeth
A gun, Doobuk †
A bow and Arrow, Poorkull
A sword, Kuttool †
A stick, Burggell †
A village, Oorrh†
A town, Pudhuh† Oorrh
A road, Terroo†
Water, Neerlh†
Rain, Wannu†
Milk, Pall†
Horse, Goorrum†
Bullocks, Edooll†
Cow, Avull†
Buffalo, Ennum,
Sheep, Gourell
A dog, Kookoll†
Goat, Mekur†

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Fowl Korla†
Stones, Rattal †
Good, Jhatore
Bad, Yerrwar
Glad, Jhatore, Puddah †
Language, Matool †
Great Jhatore, Puddah †
Small, Sunnud, Sunwar
Run, Ookull †
Run off secretly, Hoorkull †
Hide, Kogur †
Seen, Kunlah †
Dead, Susslah †
Afraid, Erpoo †
Seize, Puttoo †
Wound, Nurklah †
Blood, Nehtooro
A corps, Machull Sussla
Quick, Esskur
Slow, Geroola

There can be little doubt but that the Ramoossies in their primitive state, led a roving unsettled life, like many of the nomadic tribes, keeping at some distance from the habitations of the more civilized orders of society, and occasionally, when opportunities offered, plundering travellers; they also attacked at night the houses of the inhabitants of towns and villages near which they halted; as a measure of precaution, with the view of protecting their property from such troublesome and dexterous robbers, the inhabitants of various places deemed it most advisable, to employ some of these people in the capacity of a preventive police; and it may be observed, that it has become frequently necessary in many parts of the country, to continue a system perfectly analogous in modern times.

This led to the institution of the village Ruckwalldar and Jaglahs, (the guardian or watchman,) which, in the course of time, became hereditary. With regard to the pay, fees and emoluments to which a Ramoossy Ruckwalldar, or village watchman, is entitled from long established usage, it is necessary to remark, that one uniform system does not prevail in the mode of remunerating them.

In some towns and villages, also in hill forts, the Rukwalldars, and a few of their followers, enjoyed merely a certain quantity of land rent free, for discharging the duties that were assigned to them. In other villages, they only receive an annual allowance in cash, partly levied by an extra cess, and partly paid from the Government revenue, under the head of village expences; and again, in a few villages they only receive the Balottah allowance.—In the Satara territory, the Ramoossy watchmen receive this huk, or allowance, on the same footing as the four members of the first class, or division, of of the twelve Balottahdars; while those to the north of the Neera, in the Poona and Ahmednuggur collectorates, only receive shares of the Balottah allowance, corresponding with what the four members of the second division are entitled to.

The watchmen in a great many villages hold portions of rent free

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land, and have stipulated allowance in cash, besides the Balottah perquisites; while in other places they receive only the cash payment and Balottah.

Ramoossy, in his character of Rukwalldar, or watchman, is not included among the twelve members of the village Bolottah,—this name is in the list of Alottahdars, or those who receive the charitable allowance. The inhabitants of some villages grant the Balottah dues of their own free will and accord, but do not acknowledge it as a perquisite, or right of office, due to the watchman, or which he can claim in addition to the money allowances and the rent-free land which he enjoys.

Besides these emoluments, the Ramoossy receives a perquisite which is termed the Tull cha pysa, or fees for occupying the halting or resting place. Merchants and travellers passing through the country with cattle loaded with goods, and occupying the tull, or berarr, (resting place) in or near a village, with fifty or several hundred bullocks, conveying grain, salt, cloth, &c. it matters not what description of merchandize, the Ramoossy watchman undertakes to protect their property and persons during their stay. In some few towns, the Patells and Mhars get a trifling allowance from these travellers—but the Ramoossy always receives his fee, averaging two, three or four annas for every hundred bullocks—or should the travellers, or, more properly, the merchants be in separate parties, putting up at the same tull, they will pay him two or three annas each. If there are only ten or twenty bullocks, they give five or six pyse, (from one to two annas:) an anna may be about three half-pence.

Should the merchants' cattle have come unloaded, the owners give the Ramoossy a small quantity of flour, or a few cakes of bread, for his trouble. In case a bullock, or part of the property is lost or stolen, the Rukwalldar becomes bound to recover the same, or to make the loss good; a traveller, with a horse, halting at a village, gives a pyse or cake of bread to the Ramoossy, for the protection afforded during the night.*

The Ramoossy watchmen almost invariably receive, or did receive from the villagers, a sheep, or, in lieu thereof, eight annas, at the annual festival of the Dussra; also a kumbly (blanket) and a pair of shoes.

The Rukwalldars hold grants of freehold lands in various places, as a reward of services performed by some of their ancestors, besides,

* The servants of European gentlemen and those connected with them, most commonly resist paying these dues.

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holding at times Mookassy rights in different villages; * and again we find instances of their having had lands conferred on them in freehold gifts, as the price of blood—when a Rukwalldar might have died accidentally from a blow, or ill treatment inflicted by the retainers of a Jageerdar, or Government agent,—he petitioned the Peshwah for a pardon for himself, and entreated that a certain extent of land might be bestowed on the family of the deceased for their support, The Sassoor Ramoossies enjoy sixty begahs of land granted in this manner, in consequence of one Cheembajee having died of ill treatment received at the hands of the Jageerdar Mendly of Sassoor, about eighty years ago. In the table annexed may be seen an account of the lands, &c. &c. granted by Government and the villagers to the Ramoossies. Since this statement has been prepared, Government has sanctioned, with a view of rendering the police of villages more efficient, lands to the value of about nine thousand rupees yearly rent, to be granted to the Rukwalldars of villages in the Poona collectorate.

In such villages as the Ramoossies hold freehold lands, we find the ground occasionally cultivated by themselves; however, this is seldom the case; they at times get a koonby to assist them in the labours of the field, and make a division of the produce according to the number of bullocks employed, and other aid contributed by each; but the general, and almost invariable custom is, for the Ramoossy to engage with some of the koonbies to cultivate the land, and the koonby to hand over half the produce of the field to him, after deducting the expense of seed, reaping, thrashing, and other incidental charges. However, the land held by the Ramoossies is frequently of a very unproductive quality, and consequently for years, is entirely neglected.

In some few villages in each pergunnah there are one or two Ramoossies to be found, of peaceable and industrious habits, and who pursue an agricultural life, cultivating the village lands, and paying rent as the other cultivators do, the females of their families labouring

* The Mookassy was an allowance granted on account of military services in general, and varying from eight to ten, and from sixteen to twenty-five per cent. on the revenue of a village. The Ramoossy Naiks of Poorunder enjoy the Mookassy of the small village of Sakoordy since the first grant made to their ancestors by the Rajah of Satara for their services in a military capacity. Again we find the Bhetara Mookassdar of the small village of Bhewndy, near Poorunder, receives twenty-four (24) per cent. of the revenue of that village. It was originally granted as a reward to one of the family who took charge of Parwutty Baie, the widow of the Bhow, after the dismal defeat of Paniput, and conveyed her in safety from the battle field and cruel pursuit of the victors, to her brother-in-law the Peshwah.

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in the fields along with them; yet it happens occasionally that this is found a difficult, and, in present times, a most unproductive line of life, so that some one of the family is driven to his shifts, to add his mite to the general purse from which the Government dues are to be paid, and to the Ramoossy, one of the most natural and most ready modes of obtaining this, is by helping himself by stealth to some part of his neighbour's property.

The offspring of a Ramoossy by a koonbin (a woman of the Koonby caste) conforms more readily to the settled life of a cultivator—even a few of the most unsettled of the others, who have accumulated a considerable stock of money by successful depredations, take to cultivating a few begahs of ground for several years successively.

However, the above observations apply more especially to the Ramoossies in the southern districts of the Ahmednuggur collectorate, and to all of those in that of Poona, as well as in the northern district of the Satara territory; and it may be added that they seem a people that would much rather prefer living by their wits, scheming plans of dispoiling others, than by labour which they heartily and radically hate, at least, labour such as the hard-working and industrious koonby (farmer) is obliged to submit to.

In every three, five, fifteen, and sometimes twenty villages, there is a head Rukwalldar, or Naik, in general denominated the Sir Naik, (or chief;) he resides in the principal town or village of which he enjoys the watchman's allowances and perquisites. He keeps as many of his relations and retainers with him, as he may consider necessary for the discharge of the duties of his office, while he employs one or more relations and followers to reside, either temporarily or permanently, in the other villages of which he has the guardianship. These receive the Balottah allowance, &c.; "and the Chief Naik," beyond receiving yearly at the Dussra festival, a pair of shoes, a sheep, and a small quantity of grain, or living at the expense of the village, when he proceeded on a tour of duty, derived no allowance from the distant villages. However, he enjoyed the influence arising from having the patronage of filling up casualties among the watchmen in case of death, removal, imprisonment, or desertion. The inhabitants of a village seldom or never nominate a Rukwalldar of their own choice, without having communicated with the head Naik, in the first instance; for should he be averse to their nomination, the people know very well, that it would benefit them little or nothing to retain a man selected by themselves.

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The Rukwalldars are termed the wuttundars, or hereditary watchmen of the different villages, while Ramoossies coming to reside there, are termed oopries, or temporary residents; and, admitting that the latter have resided in the place for several generations, they are never permitted to enjoy the perquisites or privileges of the wuttundars, unless during their stay in the villages the Rukwulldarship have become vacant, and the oopery has been regularly appointed to the situation.

The succession to a vacant Rukwalldarship, has frequently led to much contention, and many oppressive acts; and it occasionally happened, that when the Naik was an infant, a very old man, or one of an imbecile understanding, some one of the relatives, an energetic and ambitious character, usurped all the authority, retaining it in his own hands.

The influence he thus gained, enabled him to exercise considerable sway over those of his own tribe in the neighbourhood, turning their services to his own private account, by encouraging them to commit depredations, in which he occasionally joined, or probably led them on; or by receiving a share of the plunder, which they offered for the purpose of ensuring his good will.

The measures that were usually adopted under the Peshwah's Government, on the occasion of a robbery taking place, have undergone some modification under that of the British; but the present account is an attempt to explain how these matters were conducted in times gone by. When a robbery occurred in a village, the Ramoossy Rukwalldar was immediately sent for, and informed of the circumstance; and whether a door had been broken open, or a wall scaled or undermined, the watchman became responsible to the owner for the value of the stolen property that had been carried off, unless the act had been perpetrated by a Durrorrah, or a considerable body of armed men. But the will of the agents of the ruling authorities was so arbitrary and uncertain, that the Ramoossies dared not relax in the slightest degree their exertions to discover the plunderers, under any circumstances.

Should the watchman have failed in seizing the robber, or robbers, he in general engaged to make good the loss in the course of fifteen days, or a month, if the articles taken away did not amount to any great value; but should it have been discovered, that a number of persons were engaged in the affair, the Rukwulldar prepared to proceed in pursuit of the plunderers, early in the morning, trac-

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ing them by their footmarks; and for this purpose, he was joined by the Patell, the Karbary Koolkurny, the Chougla, and some other wuttundars of the village. The watchman, taking a twig of the branch of a tree, cut it to the size of one of the foot-marks for a measure, and should the gang appear to have been numerous several measures were used. The Ramoossy now took the lead, accompanied by the villagers, following the track, and if the watchman and his followers could trace it, (which they are singularly expert in doing,) in a satisfactory manner, into the boundary of the adjoining village, the inhabitants of that village were obliged to repair to the boundary. These persons, for their own satisfaction, traced back the foot-marks of the robbers for a short distance into the adjoining fields; and when they returned to the boundary, the different measures that had been used for measuring the foot-marks, were carefully and formally handed over to them, (as they were obliged to prosecute the search immediately;) and in this manner it was followed up from village to village: a Ramoossy and a Mhar from the first village continued with the parties, until the robbers or the property were discovered, or all hopes of success had been abandoned.

Should the gang in crossing a river have gone any distance along the water, to prevent their being traced, or kept along rocky or stony ground for the same purpose; or should the traces of their footmarks have been lost from travelling along a road frequented by sheep, or cattle, still the inhabitants of the village within the boundaries of which this took place, were held responsible to the owners for the value of the property.

In the event of a difference of opinion arising between the inhabitants of two contiguous villages respecting the track of the robbers, the Patells, Chougla, and Ramoossies of two or three of the adjacent and disinterested villages, were chosen to arbitrate the matter in dispute, when it not unfrequently happened that it was finally arranged, that both villages should contribute an equal share to reimburse the owners of the lost property.

Again, at times when foot-marks of a gang had been clearly traced within the boundary of a village, the Rukwalldar, if he had been concerned in any way with the robbers, would deny the truth of the circumstance in the most determined manner—and solemnly declare that the foot-marks pointed out must have been old, or those of some other persons. In fact, he was well aware of the necessity of exerting his influence and ingenuity to evade the consequence of the re-

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sponsibility that was thrown upon him. Coercive measures, however, were sometimes had recourse to, to force him to his duty, by either recovering the stolen articles, seizing the robbers, or pointing them out to the village authorities; and, until either of these objects had been effected, security was taken from him for the fulfilment of his engagement, or the Naik himself was placed in confinement.

Should the Rukwalldar, however, have been really innocent, and ignorant of the outrage that had been committed, until the persons following the track had reached within the limits of his charge, he would after some little search within his own boundary, return to his house, if he failed in discovering the direction the gang had proceeded in, having previously ascertained, most minutely, from the persons that had come from the village where the robbery had been committed, the day of the week, the hour of the night or day on which it occurred, with a particular description of the different articles that had been carried off, and if the gang had been seen any where when retiring from the village with their spoil: if so, at what place, and at what hour. On all these points they endeavoured to collect the most correct information, to enable them, if possible, to determine at what hour of the night the gang might have entered the boundary of the village on their return with their plunder. Then, if according to their calculations, they had arrived after midnight, or towards morning, they concluded that the robbers could not be at any great distance, and that they must have belonged to some of the neighbouring villages;—or should they have been strangers, that they must be concealed some where in the vicinity. Two or three persons probably women or boys (Ramoossies,) were sent to search the adjacent ravines, or jungles, or wherever there were any lurking places, pretending that they were picking up cow dung, or branches of bushes for firewood,—while some of the Ramoossies proceeded to some of the adjoining villages, and without any allusion to the robbery entered into conversation with the men and women, and endeavoured to discover if the Ramoossies of the village were all at home on the night on which the robbery occurred, after a good deal of questioning and cross questioning, if it appeared they were all present, the Ramoossy, satisfied with what he heard, proceeded to another village. But should he have been told, for instance, that Bappoo had gone to Looney to visit his sister, and that Ballah had gone to the Pattell's field at Wurgawn, to steal some grain; the Ramoossy made inquiries at Bappoo's sister's house at Looney, if the brother had been there on the night in ques-

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tion, and should this prove to have been the case, he was satisfied. He next made inquiries at Wurgawn, about the Patell's fields having been plundered on a particular night; after having sifted this question well, and learned that no grain had been missed from the Patell's field, the Ramoossy returned to make some further inquiries about Ballah, and seizing him, he charged him with having been engaged in the robbery; for most probably the Ramoossy during his peregrinations received some hints of a suspicious nature respecting this Ballah. In some such manner, or in one very similar to it, a clue frequently was found which led to the detection of the party that were concerned in the robbery, and the recovery, of the plundered property.

In the event of the Ramoossies having thus succeeded in apprehending the robbers, the Rukwalldar was released from the responsibility for which he had given security. Should he, however, after his utmost exertions, have completely failed in laying hold of any of the gang, the Rukwalldar most commonly presented himself before the Patell, and prayed of him to stretch out his powerful and bountiful hand to aid in extricating him from the difficulty in which he was plunged, arrangements were then proposed for adjusting the matter;—and if the inhabitants and the Ramoossies of the village were very poor, (which was but too commonly the case,) the owner of the lost property was, probably owing to the poverty of the people and the hard circumstances of the case, obliged to compound for half, and even much less, of the amount of his loss. To make good the required contribution, the Patell, Karbary, Kookurny, the Wuttundars (hereditary farmers,) and the Ramoossies, paid certain proportions, and in the event of the Government authorities being obliged to interfere, they endeavoured to collect the money with as much consideration as possible for the state of the people. Settling such affairs often caused much annoyance, trouble, and distress, to all those who thus became indirectly connected with the original business.

It is known that the Patells sometimes made the watchman contribute the largest share of the sum they were called upon to subscribe. The character and arts of the Ramoossy Naik being familiar to the Patell, he was threatened, and rather than run the risk of having any of his rogueries brought to light which might involve him in further trouble, he agreed to the Patell's propositions. *

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* Government are anxious to guard as much as possible against oppressive

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The duties of the village Rukwalldar or Watchman, although they are unceasing, are comparatively of a light nature; and his success depends on his personal character, his activity, and his local knowledge; on his attachment to the village, and his desire of keeping on the best footing with all the inhabitants, and guarding their property from the depredations of others,—and above all, on not conniving at the spoliation of any part of it whether within doors or in the fields, by any of his own family, or followers;—unfortunately, many are the causes of complaint which the villagers, but more especially the farmers, have against the watchmen on this account.

These faithless warders not unfrequently carry off during the night, part of the corn that had been cut down and left in the fields, and steal the grain from their Khullies, or Rasses (temporary farm-yards,) in the fields, or near their villages;—Yet rather than be at open war with the Rukwalldars, these complaints are seldom, or never, pressed upon the notice of the Government agents.

There are instances of the Ramoossy Naiks who are of a bold and daring spirit, having a great ascendency over the village Patells and Koolkurnies, but which the latter, do not like to acknowledge openly. These dread representing to higher authority the irregularities which the Rukwalldar and his followers are guilty of;—and it sometimes happens that the village officers participate in the profits which the Ramoossies derive from committing such irregularities.

A great number of the Ramoossies and their families live in extreme poverty and wretchedness, dragging on a very miserable existence; many of those in the most distressed circumstances are usually persons, who had come from distant villages, or quitted their native place, in consequence of having been concerned in some theft, or robbery, when most probably, several persons had been badly wounded, or killed; and some of them keep moving about the country in expectation of obtaining some employment.—These Ramoossies when they become inmates of a new village, support

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acts in levying fines, and to conform, at the same time, with long established usages of the people. I subjoin an extract from the regulations of the Bombay Government, to show how the Magistrates are to act in such cases Reg: XI, of XXX. " When a robbery has been committed within the boundary of a village, or the perpetrators of a robbery have been satisfactorily traced thereto, and neglect or connivance be charged against the inhabitants or the police establishment with regard to prevention, detection, or apprehension, it shall be competent for the Magistrate to investigate the matter as a criminal offence, and if the fact be well substantiated to exact a fine not exceeding the value of the property lost, the whole or part of which may be awarded in compensation to the owner, according as the degree of caution and activity which he evinced on the occasion may deserve, and the Court of Circuit is directed to inquire into such matters."

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their families by selling grass and firewood which they cut in the adjoining hills and jungles, unless they should have succeeded in securing some articles of value, in the commission of the robbery that may have caused their flight from their homes. Should this have been the case, they probably, at the termination of a few months, purchase a couple of bullocks, and take to farming as long as it may suit their purpose.

These new comers, are the persons who are generally guilty of petty robberies in the vicinity of the villages they reside in. They waylay solitary travellers approaching to, or departing from them, in any jungle, or strong ground, a few miles from the place. They rush unexpectedly on the traveller with their faces muffed up, to prevent their being afterwards recognised. They force him to surrender to them any wearing apparel of value which he may have on his person, and whatever other property worth taking he may have in his possession. They then return to the village rapidly, by a circuitous route,—and reach their homes long before any account of the robbery has transpired.

It may be mentioned, that the Rukwalldars give encouragement to such persons, but warn them against molesting the inhabitants of their own villages, and plundering any travellers, except strangers, and persons, from a distance. When two, or three of these start to commit a robbery on a few travellers halting in, or near the village, they have been known to reverse their shoes, on some occasions, when returning with their plunder.

It is but justice to remark, that the Rukwalldars of some few places, have established a character of zeal and activity in the discharge of their duty,—and that in their villages a robbery has not been heard of for years. These effectually prevent the intrusion of any persons for the purpose of plundering; and, should any robbers be bold enough to assail the house of any person in their village, and carry off any property, the Rukwalldar Naik himself will go the whole way upon the track, passing through the boundary of the various villages the robbers may have passed in their route, one or two persons of those villages merely accompanying him; for, being enraged and indignant at the insult offered to him, he is induced to take all this trouble himself, in the hope of being more completely revenged on those who dared to bring disgrace upon him.

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CHAPTER II.

The secrecy and rapidity with which they commit Durrorrahs or gang robberies.—Other castes guilty of similar outrages.—The different terms used by them explained.—The measures pursued by them to obtain information and to ensure success to their plans.—The oaths they take.—How they dispose of the captured property and the value it is generally estimated at.—The village gold smith and petty Marwary merchants, afford facilities for disposing of stolen property.

The resolution, secrecy, and rapidity with which the Ramoossies concert their schemes, and carry them into execution, are rather remarkable; for there are at times a few Mhars, and Mangs, likewise men of the Koonby tribe, associated with them on their plundering expeditions. Yet before much time has elapsed from the commission of the outrage they may have perpetrated, it is pretty well known who were the principal actors in the affair;—still however, information is withheld, chiefly from the dread of the delinquents embracing some violent, or malicious measures against such persons as may have become acquainted with their proceedings, and are likely to make known the circumstances to the proper authorities. For such persons as are capable of communicating information have little inducement to do so,—not wishing to incur any risk of danger, or the inveterate ill will of the robbers, by engaging in matters that do not immediately concern themselves;—moreover, it frequently happens, that instead of gaining any advantage by becoming informers, they would most likely be put to considerable expense, at all events, to very great inconvenience by being obliged to attend as evidences at a distant Court of Justice, where they might be detained for an uncertain length of time;—they weigh well all these matters, and consider it best to be silent on the subject, and the robbery in the mean time is partly forgotten, till probably some of the robbers have had a quarrel among themselves about the division of the property, or one of them, from a grudge, or spirit of malice and revenge, has communicated the long wished for information.

The method in which they set about gaining intelligence, and carrying their plans into execution, and finally disposing of the property of various descriptions that fall into their hands on these occasions, I shall now relate, as far as I am acquainted with it, explaining in the first place, the meaning of the term Durrorrah, which it will be necessary to employ very frequently in the sequel. It may be noticed here, that besides the Bheels, Kolies, and Ramoossies, the caste of Mangs are in the habit of committing Durrorrahs.

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The Mangs in the north west and the southern boundary of the Ahmednuggur Collectorate, and those around Sholapoor, and in the eastern quarters of the Poona district, are very desperate robbers and not unfrequently commit murder, or inflict the most severe wounds on persons that offer resistance to them while plundering, and sometimes for the purpose of striking terror into the people in the nighbourhood of the house they are going to plunder, they will without the least hesitation cut down any persons they may encounter in the road. The Mangs along the country between Satara and Kolapoor are likewise a very bold and cruel set of robbers : Kykaries commit robberies also in gangs ; these people will be alluded to in the Sketch of Oomiah's life,—Koonbies (farmers) also try to realise money in this way.—These in general join some of the other castes in such excursions, but there are some noted men near Poona who venture to plunder occasionally in the Mawils* by themselves. The Bunjaras who are a bold and formidable race, when traversing the country with herds of bullocks, transporting grain or salt, sometimes perpetrate robberies in gangs—and they are not over scrupulous in committing murder on such occasions, if they meet with opposition or deem it necessary for their future security. The Dheres, alias Mhars, alias Purwarries, although in general a very trust worthy and most useful class of persons, occasionally commit gang robberies—but it is seldom that these people are guilty of such crimes to any great extent, unless they have quarrelled with the Patell and other villagers—they consequently strike work till they obtain redress. During this period, the Balottah perquisites are withheld from them and they are very apt to subsist by foraging on the property of others.

The word Durrorrah is used by the inhabitants of the Dekhan to express a night attack made on a house or tent by a body of armed men for the purpose of plunder. "Daka" is the Hindoostany term and the word used by the Ramoossies, is "Tutch," which conveys the same meaning in their language.

Attacking an escort marching in the day time with money, jewels, &c. for the purpose of capturing the same, they term "Rokurparna" ;—and attacking a body of merchants proceeding along a road with a quantity of cloth or goods of any other discription—also attacking any number of travellers, to plunder them of

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* The vallies between the hills branching eastward from the Syeedry range of mountains so called.

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their wearing apparel, or such valuables as they have in their possession, is called "Waat parna" and "Rahmarna."

The man that heads a Durrorrah, or employs others to commit one, is always a Naik, or person of considerable respect amongst his tribe, in the particular district in which he resides.

Previous to the Ramoossies' attempting to commit a Durrorrah, or attack a treasure party, &c. they always manage to obtain the most correct information regarding the house, or place, they mean to attack,—and the number and description of the persons whom they are likely to encounter in their enterprise,—to enable them to make suitable preparations before they set out on their expedition.

When they are particularly anxious to gain correct intelligence about any bullion, or valuable property, that is to be transmitted from one place to another, and they have no confidential person in the place, or among the immediate attendants of the Banker, or the Merchant, which the Ramoossies sometimes contrive to have; then probably the Naik himself will go in search of intelligence, assuming the appearance of a poor wanny, (shop-keeper,) or of a Brahmin, by putting his clothes on after the fashion of those people,* or a couple of smart Ramoossies will be employed. These go prowling about, and enter into conversation with the people in the neighbourhood, and manage to pick up such information as they may deem necessary without causing suspicion.

For the same object, and to examine minutely any wealthy person's dwelling, they frequently adopt the dress of a Goossyne or Vyraggy,† who wear clothes of a dark orange, or brick dust, colour;—or of a Waggiah ‡ who carry about with them, in small bags made of tiger skin, a quantity of "Bhunder"|| sacred to their deity, and armed with a small spear, &c. Should these emissaries find that the required information cannot be obtained in one day, and that it will take several days to obtain it, they have recourse to pretended sickness, as an excuse for remaining in the town or village, and very commonly they tie a rag round their foot or ancle with some leaves, affect to be lame, and moving about with apparent difficulty and pain, beg from house to house, and shop to

* Almost all castes are known by the way in which they wear their Turbans and Dhotturs.

† A particular description of devotees.

‡ Devotee beggars followers of Khundobah.

|| Pounded turmeric—curcuma.

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shop.—When they approach the house* which they wish to reconnoitre, they endeavour to excite the sympathy of the inmates especially of the females, calling out, that any thing they may bestow in charity, will be restored to them a hundred fold, and praying that both their families and riches may increase, and that they may never become widows. The sly rogues are all this time, making their observations, and probably trying to form an acquaintance with some of the domestics of the family, or one of the children, in order that, should they afterwards meet either near the temple, or the village well, &c., they may the less suspectedly enter into conversation with them—Having acquired such knowledge as was wanted upon all points, they quit the place, and return with all speed to their homes—or rejoin those who employed them. These spies are sometimes so successful, that they produce to the Naik a list of the property, with the value of each article inserted, whether it is money, or jewels; the date on which it is to be dispatched, the number of the escort, and how armed, with other particulars; should it be the description of a ho use that was required, all that they observe is mentioned—besides that, on a particular night, the owner is to have a few friends at his house, to hear a portion of the shasters read. This is a very material point to be learnt; for if the house be a very strong building, with a large gateway, the wicket is kept open, or indifferently fastened, on occasions like that alluded to, and this gives the Ramoossies an opportunity of rushing into the interior, which very likely they could not accomplish under other circumstances, owing to the strength of the place.

The Naik determines on the number of men, to be employed,—whether ten, twenty, or thirty, or double that number. This will be regulated by the nature of the service on which they are to be engaged, and the number of friends he can reckon on, together with the influence he possesses over them. Should twenty men be considered equal to the enterprise, and the Naik probably able to muster only five or six men in his village, he sends to apprize the necessary number of his friends, that he requires their attendance at his house on a certain night, for some particular service. They accordingly assemble at the appointed time at his house, and after some consultation, they separate. Two, three, or four of the guests (as they are termed) take up their quarters in the houses of each of the Naik's relations, and they remain concealed there all the following day. A supply of bread is prepared for the party, sufficient for one, two, or more days, according to the distance they may have to

travel; should it have been remarked by one of the villagers to any one of the party that an unusual number of strangers had been observed near the Ramoossies' houses early in the morning, an answer is given, which, had generally been previously settled on among themselves, to remove suspicion from them, viz. that they were solemnizing some particular festival, the death of some one of their relatives, the betrothment of one of their children, or the fulfilment of a vow made during the sickness of one of the family for his, or her recovery, &c. Before they set out in the evening, they take a solemn oath* before the Naik, that they will not disclose to any body whatever, any thing connected with the robbery which they are going to commit, nor mention the name of any of those concerned in it. If the Naik is a man of more than usual influence, he will make them promise in a similar manner, that they will not retain or conceal any part of the property, that may fall into their hands, and that they will faithfully deliver up every particle of it to him, that he may distribute it in the customary manner.

It is an established usage amongst them, to vow that they will make a suitable offering to their god Khundobah, if their expedition should prove successful. Formerly, there were some families who presented an eighth and a tenth of their profits at this deity's shrine; but those days have passed away, and what they offer at present is comparatively a trifle; occasionally from one and two, to three and five, at most ten rupees, and this is expended in purchasing cocoa-

* It may be as well to describe how they take an oath—The Ramoossy swears by the Bel Bhundar—this being considered by them the most binding of obligations (the Bel) (Cratava Religiosae) is a tree that grows to a considerable height. It produces a fruit very similar to the Kuveet or wood apple—only it is of a more spherical form—and when the small ones become dry and hardened, they are sometimes used by the brahmins as snuff boxes—the leaves are very small and oval shaped. The extremities of the branches terminate in the shape of creepers varying in length from one to two and three feet. The tree is sacred to Mhadeva in the same way that the Toolsay shrub (purple basil—Acimum sanctum) is consecrated to Vishnoo a few of the leaves of the Bel, also some grains of Jawary (Holcus saccharatus) are mixed up with the Turmeric powder (Bhunder) which had been previously placed on the Ling, the deity they worship. Then taking a small quantity of it between the fingers of the right hand they repeat the oath they are required to take—qualifying it with imprecations in case of failure. They then cast a little of the powder into their mouths, and rub a quantity of it on their forehead. They seem to be of opinion that oaths were much more respected and considered much more binding on the conscience in former times than at present—indeed, so much is this the case, that the Ramoossies have little confidence in each other, although their faith may have been pledged in the most solemn manner. It is the general remark over all the Dekhan, that falsehood and perjury are much more common in our Courts of Justice now, than eight or ten years' ago—that the proportion exceeds at least fifty per cent—this is stated on native authority.

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nuts and Bhundar, some of which is placed before the deity, and the rest is thrown up among the hungry Gooroohs (attendants of the temple,) and such persons as may be present paying their devotions. The Poorundur Ramoossies make this vow to the goddess Bhoanny, of Kondunpoor, near the fort of Singhur when they proceed to plunder to the westward, either in the vallies of the Syadry range of mountains, or below in the Konkan. The Looney (Kallburs) Ramoossies invoke the god Ramah to favour them on such occasions.

They arm themselves chiefly with swords, taking one, two, or three matchlocks or more, should they judge it necessary; several, also, carry their shields, and a few have merely sticks, which are, in general, shod with small bars of iron from eight to twelve inches in length, strongly secured by means of rings, and somewhat resembling the ancient mace. One of the party carries a small copper or earthen pot, or a cocoanut shell with a supply of ghee, or clarified butter, in it, to moisten their torches with, before they commence their operations.

The Ramoossies endeavour as much as possible to avoid being seen by any body, either when they are proceeding to the object of their attack, or returning afterwards to their homes. They therefore travel during the night time; and before day light in the morning, they conceal themselves in a jungle or ravine near some water, but at a distance from any village, where they are not likely to be observed by any of the inhabitants, they sleep here all day, and move on again in the evening. They proceed in this way to the distance of thirty, fifty, and eighty miles, till they have reached some particular spot in the vicinity of the village where their game is. When they are pursued and much pressed, at times they will throw themselves into a bush or under a prickly pear plant, coiling themselves up most carefully, that the chances are their pursuers will pass them unnoticed.* I have known the Bheels and Kolies do the same; their women are equally expert in secreting themselves in a similar manner. It is rather singular that while these people keep

* The Ramoossy Naik Bhojajee Bhandolkur who was the bosom friend of Oomiah, was seized some years ago near Poorunder, when a party of the Police were escorting him a prisoner (with his arms pinioned behind) to Sassoor, and at the time they were passing through a mangoe grove, Bhojajee broke loose from his escort and ran off with great speed towards the hills, but apprehensive his retreat thence might be cut off, he determined to take refuge in one of the trees a head of him, and by this means mislead his pursuers, as he had gained a little on them, and observing a tree with a branch projecting in a horizontal direction favourable for his purpose, he briskly seized it, swung himself aloft where he contrived to hide himself among the leaves.

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roving through the most unfrequented spots of these hills and jungles where it is well known there are many tigers and bears, few, if any accidents happen, although they are often encountered, particularly at night. The members of a Bund, however, are fully impressed with the superstitious idea that their own good fortune aids them while so engaged besides being especially under the protection of the spirit of the forest, tigers and bears are prevented molesting them.

Should they be following a treasure party, one of their spies here joins them, and informs them that the party, with their charge, will move from a particular village and in their route will pass near them in the course of the morning. Some favourable spot near the road is fixed upon by them to take post in, ere the treasure arrives. The gang having girded up their loins tightly, and twisted a cloth firmly round their faces to prevent their features from being distinguished, when the treasure party comes abreast of them, they rush on the escort and immediately commence seizing the money. If the men in charge attempt to use their arms, the Ramoossies instantly use theirs, and after two or three of the escort are wounded, or, probably killed, the rest move off to a distance leaving their charge in the possession of the gang. Ramoossies carry off their prize as rapidly as possible, into the nearest jungle or hills, and after they make a division of it into small portions, for the convenience of carriage, should it have been in large bags, they march off with all possible speed by a different route to that by which they had previously come, and before reaching their homes, one of the party is deputed with a contribution of one, two, or five rupees to be presented as an offering to their god Khundobah, or the goddess Bhoanny, in fulfilment of their vow. When they have reached the Naik's house, all the money is deposited before him. He distributes the amount equally among all, keeping a sum equal to about twice the amount of a Ramoossy's share for his own portion; however, he sometimes takes much more, but this of course depends on his character and influence. Oomiah, for instance, required those he employed, to deliver up to him the property of every description that fell into their hands, and he afterwards repaid them according to the ideas of the service they had performed. It was seldom he acted very liberally on these occasions, and the consequence was, that, latterly he was defrauded of the greatest part of the property of which the poor people were plundered notwithstanding that he was in the habit

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of making the Ramoossies he employed to commit Durrorrahs, take a most solemn oath that they had not secreted, or withheld, any part of the plunder. An account of the cruel and tyrannical system which this most notorious Ramoossy Naik established when he was at Sakoordy, in the year 1829, and 1830, will be given in detail hereafter.

It is necessary to observe that the Ramoossies make a point of always going in sufficient numbers to enable them with ease to overpower an escort. It is very seldom that the latter, in consequence make any great show of resistance and sometimes none at all, the Ramoossies seizing two or three of them and beating others with sticks, give time to the rest of the gang to throw the treasure from off the tattoos or bullocks, and run away with it.

When a gang of Ramoossies encounter two or three men passing along an unfrequented spot, with treasure, or any valuable property, they will sometimes put them to death, if they make any resistance, or recognise any of the gang, and their bodies are buried in the bed of a nulla or thicket in the vicinity. The travellers proceeding on their journey will probably observe three or four men sitting in the middle of the road some distance in advance of them, apparently engaged eating paan supary, for upon the approach of the travellers, one of the party will pretend that he is busy cracking a nut between two stones, whilst another is tendering tobacco to his companions; two or three of their friends well armed remain concealed behind some bushes or stones, in the vicinity and should the travellers offer resistance when called upon to surrender their property, the party call out in a threatening manner, that they had better deliver it up otherwise they will all attack and kill them.

Should the object of attack be a banker's or merchant's house, or that of any wealthy individual, the Ramoossies prepare themselves, and proceed the same way as they do when they go to plunder treasure, only that they carry one or two small hatchets, and probably a crow-bar with them, in order to break open the door of the house, should they find it fastened.

In case of their being attacked, and compelled to run away, when busily occupied in plundering a house, they almost invariably fix on a convenient place as a rendezvous for them to re-assemble at. This is to admit of their returning to their homes in a collected state; for should they disperse over the country, some of them might be apprehended the following day. Besides, should they not have

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secured any thing of value before they fled from the house, they will, probably, proceed to a neighbouring village, and plunder a house, or shop, there, as an anterior movement to their returning to their homes. I have known a gang of eighteen men visit three villages successively, in this manner, in one night.

When a gang has arrived within six or eight hundred yards of the village in which the house is, they mean to attack, the portion of them allotted to enter the house, take off their shoes, some of these tie their shoes in their waist, but the majority of them deposite them along with their sword scabbards in some bushes or grass nigh at hand, for were they to take their shoes and scabbards with them, some of them might be lost in the bustle that usually takes place in such doings, and afterwards be recognised from the workmanship, as belonging to some particular village, and ultimately lead to the detection of the robbers; moreover, the Ramoossies reckon it unpropitious to enter a house on such an errand with their shoes on. Those of the party who only carry sticks now collect a parcel of stones of two or three pounds' weight each—which they take with them to the village to be used as missiles. If the Ramoossies be of opinion that they will not be recognised, from the village being a great distance from their homes, they do not muffle up their faces,—otherwise they do so,—at all events the person who is employed as spy on the occasion, keeps his face well wrapped up. Thus far prepared, all of them turning towards the town, and looking in the direction of the house they are going to assail (should it be strong and they expect resistance) they throw themselves into a supplicating posture, and making repeated obeisances, invoke the tutelary spirit of the place to favor their undertaking, and crown their exertions with complete success, that they may obtain a stock of valuable articles to enable them to maintain themselves, and their wives and children for a long time—one of the party having taken off his turban, it is cut into three, five, or seven pieces, but never into more—each piece being one and a half, three, or five cubits in length.* These are twisted to form so many torches (Kakrahs Tembahs) which are well moistened with the ghee they take along with them. Turning their backs to the village, a couple of them hold a cloth to shelter the person who has the tinder box, while he is striking fire, and lighting the torches,—but they are very cautious about preventing the torches blazing into a flame, in case they should be

* They like odd numbers.

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seen by the villagers. These are, therefore, preserved in a smothered state, and kept under their clothes. They now approach rapidly towards the house and post a couple of men as sentries in each street, or lane, leading to it, and the torches being lighted, they rush into the house if the door be open leaving a strong party outside for their protection against an attack from the villagers,—should it be shut, they will break it open with their hatchets and stones, if they cannot succeed in getting into the interior of the dwelling by climbing over the wall.

The first object of the gang upon their entrance, is to prevent any of the inmates of the house from effecting their escape outside to give intimation to the inhabitants, or into the interior, or to the top of the house, as they might carry off some valuable property, and conceal it. Besides, the clothes and ornaments on their persons would be lost to the robbers. Therefore, if there appear to be any intention on the part of the inmates of the house to move off, or to attempt any resistance, the members of the gang immediately commence calling out to each other to seize and beat them! After seizing them, they bring them to the front, or probably, shut them up in a room, till the gang have searched every place for valuables, and should they have reason to suppose that any of the articles have been hidden, they lay hold of either of the men or females, and threaten them with the most severe and cruel punishment, holding their naked swords on the unfortunate people's throats, and often tearing away an infant from its mother's arms, and holding it by one of its legs, swinging it round, threaten to terminate its existence by knocking its head against a pillar, if they do not comply with their wishes. This, in general, tends to obtain the information they require, and puts into their possession the articles they were in search of. The men, and, sometimes the women, are stripped naked, should their clothes, be new, or nearly so; and, not unfrequently, the ornaments are torn so forcibly from the women's ears and noses, that the sores, consequently produced, do not heal for several months. It is very seldom that the Ramoossies proceed so far as to violate the chastity of females, although there have been many instances of their doing so within these three years in the Punt Suchew's country; but if any of the men are courageous enough to make an obstinate struggle in defence of their property, they are frequently wounded or killed, and the women aware of the risk their husbands, fathers, and sons, incur when their dwelling is attacked by a gang of robbers, exert themselves to get the male part of the

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family to retire to conceal themselves before the robbers can enter, hoping that they will be able more readily to excite the sympathy and compassion of the members of the gang, and more quickly pacify them. When those perceive that they can range about the dwelling without danger to themselves, they are less likely to treat the alarmed and weeping females with severity and rigour; often have I heard persons describe or rather attempt to describe the agonizing feelings, which both themselves and their females experienced when they saw the band of robbers enter the house and rushing to seize them. What must be the state of the husband when he beholds his wife or daughter whom he loves and adores, writhing under the tortures of these ruffians. When the gang have collected all the property they consider worth their trouble to carry away, five or six of the most active of the robbers remain in the house, or at the entrance, as a guard over the people, till the rest of the party have moved off by a different road from that by which they came and have got to the distance of five or six hundred yards, and then this rear guard retreat with as much rapidity as they can in an opposite direction, and rejoin their friends at the place previously settled on. They take up their shoes and sword scabbards, and then set out for their home, and make a division of the property very likely in a ravine in the vicinity, from whence they disperse, every man proceeding to his own house.

The man who gave up his turban to be converted into torches, secures the best turban he can find among the plundered property,—a perquisite to which he is entitled, and it is always the same person who devotes his turban to the flames, on such occasions. A rather notorious character named Suttoo Bhandollkar, but nick-named Suttoo jubber toottah, (from having received a wound in the jaw many years' ago in a skirmish with the Nizam's troops near Parinda, and who has sacrificed many an old turban in this way,) is at present in the Poona Jail, having been a staunch and active friend of his old companion Oomiah, during the late disturbance in the Poona district.

Should the Naik who employed the gang, not have accompanied them on their trip, the property is either taken to his house, or distributed among the party in some jungle, or ravine, at no very great distance from his dwelling. The Naik, should he for his own security deem it necessary, makes each man of the party take an oath that he will abstain from touchiug spirituous liquor for the period of one, two, or three months. This is in case they should, in a state of intoxication begin to abuse each other, and disclose the robbery by

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remarks on the unfair division of the spoil, or the unjust estimation of the exertions and merits of individuals,—such disputes might lead to blows, and some of the villagers might learn all the particulars connected with the robbery, and report it.

Sometimes the inmates of a house attacked by a gang of Ramoossies, make a bold and resolute stand in defence of their property, and prevent the gang from entering into the interior of the dwelling, and we find that the inhabitants are so spirited as to turn out to support their friends, and consequently, a skirmish takes place between the villagers and plunderers. It is only on the occasion of such a general alarm and being closely pressed, that the gang are induced to bring their match-locks into play, as they prefer pelting the people with stones, &c. to firing their muskets, which would be heard at a distance and probably lead to their being surrounded by all the inhabitants. In the event of a Ramoossy being killed in one of those skirmishes, the gang carry the dead body with them. However should they be so pushed by the people of the town as not to be able to effect this, they cut the head off and take it with them; even should one of the gang be badly wounded, and likely to be captured, by the pursuing party, they will cut his head off to prevent the body being recognised. Should they have sufficient time to carry off their dead, they bury the body in a thicket, or in the bed of a nullah in some unfrequented spot. I know several instances of their having acted in this manner, since we took possession of the country.

It has been observed before, that when the Romoossies go to a distance from their homes to plunder, they do not always cover their faces. However, they speak to each other in their own language—yet they never mention each others names at such a moment. But if one of them discovers where valuable property is concealed, he calls out in their own speech, " tell the head man that there is gold or silver here ;" when they plunder a house at no great distance from their own village, they muffle their faces up very closely, and frequently speak to each other in the Hindoostany language, or make use of a few Kanarese words. Their intention in doing so, is of course, to make it be supposed that they could not have been Ramoossies, who committed the Durrorah, and that they must have been strangers.

They sometimes approach a village in small parties from different directions, and if it is necessary for any of them to advance to reconoitre the place they intend to plunder, they communicate their movements to each other when at a distance, by imitating the bark-

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ing and howling of jackalls, or the chirping, or whistling of birds. In the event of their being surprised, (and having separated during their flight,) they have recourse to their barking and chirping system for the same purpose. The Mangs also adopt this mode of communicating with each other, when similarly employed. It requires a very practised ear to detect the imposition, so successful are these people in imitating the cry of different birds and quadrupeds.

When a few travellers for the sake of security put up for the night in front of a house in the centre of a village, or under a tree close to the houses, the robbers apprehensive of being recognised, or meeting with too much opposition, will refrain from molesting them. However, shortly after midnight they will disturb the crows in the adjoining trees by throwing stones at them, with the view of making the travellers suppose it is day light, or they will imitate the cawing of the crows to delude them, and when they have proceeded on their journey, and have reached a jungle or ravine, in which the robbers had previously posted themselves, they are attacked and plundered in the dark.

The Ramoossies amongst themselves seldom estimate the property they obtain by plunder, being worth to them much above half of its intrinsic value. They say what is very true, "who will give a robber the full value of an article, when it is known he must sell such article by stealth," and that, owing to some unforeseen event, both seller and buyer may be involved in much trouble. Gold and silver ornaments plundered at a distance, they contrive to dispose of at a pretty fair price, this they partly effect through the agency of some shroffs, or money dealers. Between some of these and the Ramoossy Naiks, there is frequently a good understanding. The dealings of these people are principally with the agricultural classes. They are in the habit of receiving gold and silver articles in pawn for the money, they are called on to advance, so that they have a greater facility in disposing of articles tendered for sale by the Ramoossies, or any other robbers.

The village goldsmith is, at times, employed to break up ornaments obtained in the neighbourhood and he makes up new ones of a different description—the Ramoossy paying him the usual price of his labour. He presents him also with a turban or piece of cloth, worth two or three rupees. The goldsmith having received the turban, and probably made away with a few grains of gold, is satisfied that it is to his advantage to keep silence on the subject.

A man that had been residing at Sakoordy, and whom Oomiah

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considered trust-worthy, was employed to dispose of a number of gold and silver ornaments about three years' ago. This man proceeded to Phultun with his charge, but never returned to Sakoordy nor has any information been gained respecting him, or the property he carried with him. Had this man however, resolved on acting a more honest part in the discharge of his master's service, he would have proceeded to Phultun, said he was a traveller from some distant part of the country, and would have cautiously avoided mentioning Oomiah's name, as doing so might have immediately led to suspicion. When it is required to dispose of such articles, it is represented that it is to enable a man to marry one of his children; or that they had been received as part payment, of a debt, or bought on speculation; or very likely, the man will remark that they had been many years in possession of the family, but still, for the sake of preserving their character, they are anxious that the sale of their property should not be so publicly proclaimed in their own village.

The clothes they get into their possession, if they cannot dispose of them immediately, they are obliged to give in charge to some confidential friend, who either deposites them in his house, or in a secret place in the vicinity. Koonbys, and even Chumbars or Moochies, are frequently intrusted with bales of cloth; for the Ramoossy labours under the alarm of having his house searched, and the proof of his guilt being established. They occasionally sell their clothes to a class of Seempies (tailors,) whose trade it is to travel about selling cloth to the inhabitants of the surrounding small villages, and who are regular attendants at the weekly fairs held in rotation in the different Kusbahs, or market towns. The Ramoossies will let one of these tailors have a new turban worth eighteen or twenty rupees, for ten and twelve rupees, and other clothes in the same proportion: a shawl worth two hundred, or two hundred and twenty five rupees, they will part with for seventy, a hundred, or a hundred and twenty rupees. The Marwarry shop keepers, especially in the small villages, are in general in close connection with the Ramoossies. The Marwarry will purchase their brass and copper pots, which they sell to the Kassaurs, or Tambutgars, (coppersmiths) of the principal town in their vicinity. The Marwarry, if he is questioned on the subject, says a poor traveller gave him the articles in return for a certain quantity of floor or grain. This Marwarry also purchases some of the inferior gold and silver ornaments, and clothes, that have been sometime in use. In fact, some, of the Marwarry shopkeepers in the villages in the hills around Poona, drive a rather

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profitable trade in this way. Their dealings with the Ramoossies are in general so extremely well managed, that it is seldom they can be detected and punished for disposing of stolen property. Any valuable property that has been plundered in the Poona district, will be sold in the Satara or Ahmednuggur district, and that plundered in the Satara, sold in the Poona district.

There are some Ramoossies who prefer plundering escorts in the day time proceeding with treasure and other valuables—and who seldom, if ever, join in committing Durrorahs at night. The noted old rogue, Hybutty Shertore, at present residing at Wulty near Poona, is one of those who used formerly to be very actively engaged in this way. Many stories are told of his adventures by the Ramoossies. He was patronized and protected by Trimbuckjee Danglia, the great favorite of Bajee Row, the Ex-Peshwa. Hybutty during the time he used to be running about the country to save his life, has had many narrow escapes. He was severely wounded on one occasion by some Arabs employed to assassinate him; one of his three faithful companions was killed on the spot, but his other two friends carried him off in safety from his pursuers. On another occasion he was condemned to be blown from the muzzle of a gun on the hill fort of Lhogur, whither he was sent to undergo the punishment. Hybutty however contrived to elude the vigilance of his guard, and with considerable difficulty, lowered himself over the walls of the fort by means of his turban. He was nearly blind the last time I saw him.

There are many Ramoossies who are extremely expert at committing petty thefts, and who never venture to join their friends in the commission of a robbery on an extensive scale. In fact they are all thieves with scarcely an exception, and even the most respectable of them in appearance who apparently conduct themselves with propriety, occasionally receive a share of some Durrorah from their friends, or dependants; or the particulars of a robbery having come to their knowledge, a suitable offering is presented to ensure silence and good will on their part.

Durrorahs are only committed on dark nights, or during the wane of the moon, when she rises about three in the morning. This is to admit of their retiring from the house they may have plundered without being seen, and consequently preventing the inhabitants of the village from pursuing them. During the monsoon, or wet weather they seldom make any excursions for plunder, as there would be such a facility of tracking them to the entrance of their own houses,

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besides, the risk of being checked in their return by the sudden rise of a nulla or river, from a fall of rain, operates to deter them from venturing out in rainy weather.

CHAPTER III.

They conceal stolen property.—Also money in the hills.—Seldom lend money at interest, dreading the consequences.—Are uncautious robbers.—Place great faith in fortune.—Their perplexity when seized respecting how they ought to act.—Their opinion respecting the punishments they have to undergo.—Anecdote of a Koley.—The cruel manner in which they were treated by former Government Jageerdars.—Patells, &c. received a share of plundered property, or a consideration from the Naiks for protection afforded.—The mode of punishing those that infringe the rules of the tribe.—Admission of converts from higher classes.—Their character and that of their women—and the deities they worship.

It has been observed before that they seldom conceal stolen property in their own houses (unless it has been brought from a great distance;) so that if the real robber has been traced, and his house searched, no article is found to prove his having been engaged in the robbery. The money a Ramoossy accumulates, he almost invariably buries under ground in some unfrequented ravine, or thicket;* and the spot is only known to himself.

Although lending money at interest is so very common and profitable a trade at times in India, the Ramoossy dares not venture to traffic with his ill-gotten stock, aware he would be suspected of having in his possession money which he had plundered from some known, or unknown persons, and which might attract the attention of the Police to his dealings. However, after a few years, some of them do occasionally make advances to the farmers at the usual rate of interest; but this is on a very limited scale being unable to keep any accounts operating as a check on such speculations—very few, indeed, of the Ramoossies can read or write; their degraded caste, their idle habits, the nature of their pursuits, and general poverty, presenting obstacles to the spread of education amongst them—although they are not insensible to the advantages derived from it.

* In the month of November, last year, in the morning on which they were removing Essoo Neekary, one of Oomiah's principal Naiks from the jail at Poona to the place of execution, he sent to request that the Assistant Judge might speak with him;—and upon Mr. L. coming towards him, Essoo said, he had a considerable sum of money buried in a hill near the fort of Singhur. (Essoo resided in a small village a short distance from this fort) which he was anxious to have dug up. Mr. L. told him that it was now too late to do any thing about recovering it, as he had no authority to listen to any such representations nor to delay the execution. This explanation had scarcely been repeated when, unexpectedly to Mr. L. the unfortunate man, bent himself nearly double and rushed with great impetuosity towards a pillar, against which he hit his head and dropped down senseless on the floor.

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The Ramoossies as robbers, appear at times to be singularly imprudent and thoughtless, neglecting to adopt some ordinary, and to them necessary precautions, by making an early display of the articles plundered, or putting part of the property into the hands of individuals for the purpose of being disposed of who are unacquainted with the particulars of the robbery. There have been instances, of valuable gold ornaments set with jewels, and plundered only at an inconsiderable distance from Poona, having been offered for sale at the verp shop in that capital, from which they had been despatched but a very short time before ; thus furnishing the owner with an easy and unexpected opportunity of recovering part of that treasure, which he had considered as lost for ever.

The Ramoossies always speak of their Kuppall, Dyuh, Nusseeb, that is, trusting to fate, destiny, and chance: so much confidence do they place in fortune. There are many chances against its being discovered who committed a robbery, and in favour of the robbers not being caught; then the difficulty of convicting them of the crime, the chances of their being able by means of some friends, to succeed in bribing, or interesting some of the persons in the employ of Government in their behalf; they have still hope of being able to effect their escape, should they be seized, to establish an alibi, or, probably, admitting the truth of some trifling and unimportant part of the charge, they then call out loudly, that their enemies are trying to ruin them, by a most tyrannical proceeding on their part. They offer to produce certain persons who can prove the falsity of the charge, and persons will be produced to swear to the innocence of the prisoner. Perjury is reckoned but a very trifling offence among the natives. It is considered, in general, a meritorious act to save a friend by swearing to an untruth; for which, by the bye many an unprincipled man is well rewarded. It has, hence become a common practice in our Adawluts or courts of justice to invalidate evidence by false testimony. It may be further noticed that when they perceive no hope remaining of their escape from punishment, they will pretend to communicate all the information that may be required of them connected with the robbery, provided they are not molested or injured, that is obtaining a pardon, they make confessions which they often retract. They will admit the truth of them afterwards, and before much time has elapsed, they will again deny the whole.

(To be continued.)

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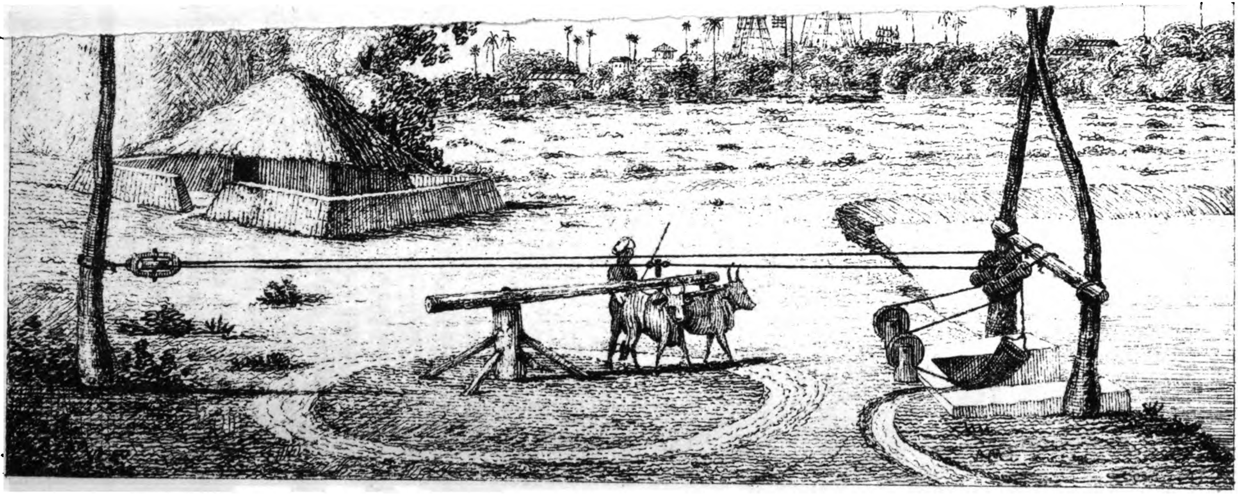

Sketch of a Machine for drawing Water. by Mechanicus.

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II.—*On the mode of raising Water in India.*

To The Editor of the Madras Journal
of Literature and Science.

Sir,

I beg leave to forward herewith to be deposited in the museum of the Literary Society a rustic model of a machine for raising water.

2. I have the pleasure to send also a coloured sketch shewing the manner in which the principles of the machine may with facility be reduced to practice; and a guide sketch with references to the several parts of the mechanism. Where there are trees upon the spot, they may be made part and parcel of the machine itself without injury to them; and where there are not, strong posts or trunks of trees, sunk in the ground, will prove effectual substitutes.

3. A post A, see guide sketch, firmly fixed and braced, forms the centre point on which the mill beam or lever B. acts. The post is shaped into the form of a pin at its upper end, and this pin passes through a hole made near the end of the lever B. The other end of the lever has affixed to it, in the usual manner, the draft yoke for the bullocks;—and it has several holes pierced along it to suit different depths of water. Suppose the diameter of the mill track to be 30 feet; then the pin and swivel C. fixed at 4, may be assumed to raise water to the height of 25 feet; but if the pin and swivel C. be fixed at 1, it may then be assumed to raise water to the height of only 10 feet. It is clear that water may be raised to any height within the diameter of the mill track, simply by shifting the swivel C. along the beam, nearer to the centre or further from it, for if it be fixed at 1, and suppose 1 to be 5 feet from the centre, then when the beam is in the opposite part of the mill track, that point 1 will be 5 feet from the centre on the left hand of the sketch, or 10 feet from its original position; and so on with respect to any other distance the swivel may be fixed at, the water being necessarily raised to this height because it is to the swivel that the bag rope is attached. The enlarged sketch shews the form of the swivel and pin more accurately. The pin must be made of Iron, and should fit tight into the beam or lever.

4. The ropes are double for each bag. The lines D. D. represent two ropes, one for raising the water, the other to be fixed to the spout of the bag for discharging the water. These ropes run parallel to, and along with each other through the pullies E, F. from C,

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and from C. through the pully G. but at F. and G. they separate, the bag rope descends with the bag direct into the well, the other makes a turn round the pulley H. or J. and is attached to the spout of its own bucket. By this arrangement the machine itself performs the office of discharging the water and needs no attendance as the sketch shows. The ropes leading through pullies on opposite sides of the mill track occasions an alternate motion, so that while one bag is filling, discharging, or rising, the other bag has an action directly the reverse. The sketch itself may sufficiently serve to explain further arrangements, and save the necessity of further description.

5. In this machine I have studied to combine simplicity of principle with equal simplicity of construction. But although the sketch and model exhibit rudeness of workmanship which indicates how little mechanical skill is required in order to make the machine of practical utility in every village throughout India, those who have the means and might choose to adopt the principle might improve upon the workmanship, and construct an effective machine for raising water, at a comparatively small expense. The only parts necessarily requiring superior workmanship are the centre on which the beam B. works, and the pullies E. F. G. Instead of a wooden pin on the top of the post A. an iron one might be substituted, and it might work in an iron or brass bouche or socket let into the beam B. or any other better construction might be adopted; and the rollers might have polished steel centres working in gudgeons of brass. Both these arrangements would decrease friction and add to durability. The pullies E. F. G. ought to be as large as conveniently practicable to lessen their wear and tear. They should hang by a rope or chain to allow them a vibratory motion to suit the different angles made by the draught rope in different parts of the mill track. The grooves of the pulley rollers should be deep to prevent the ropes slipping out of them. I shall now proceed to estimate the value of this machine comparatively with other machines employed for raising water.

6. And in the first place let us enter into the consideration of Bhowries, (bag or bucket machines) Pickottas, (levers) and the Europe pump.

7. The Bhowrie or Bucket machine has its effect increased by the inclined plane down which the cattle travel to raise the water, and the increase of effect is proportionate to the angle of inclination; the greater the angle within practicable limits, the greater the effect, and vice versa.

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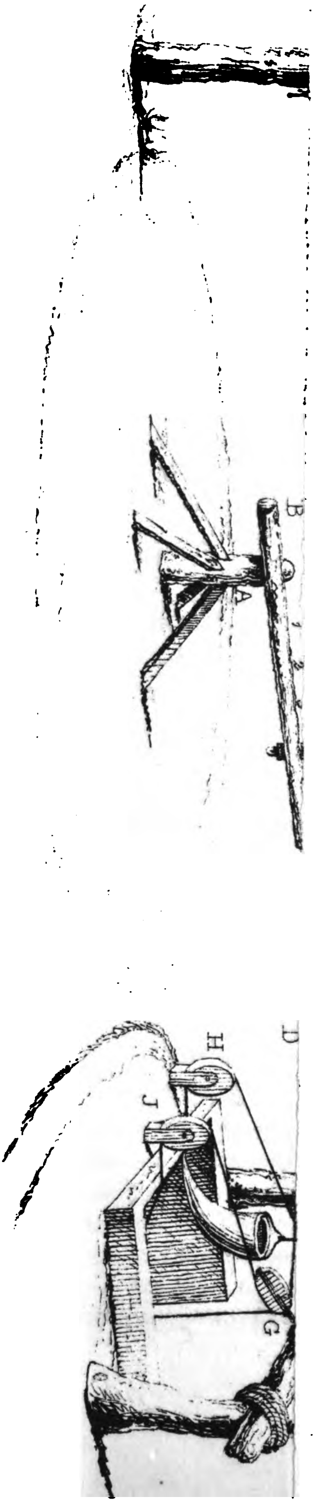

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8. A gentleman at Bellary has in his garden two wells, and two Bhowries. In the following experiments the depth of water in one well was 24 feet, and the angle of the inclined plane 14 degrees. In the other the depth of water was 27 feet; and the inclined plane 19 degrees. The same bucket was used at both wells and the quantity of water each time discharged was 650 lbs. The following was the rate of performance.

Well, angle 14°	times	minutes		
Two pairs of Bullocks raised the Bucket	10 in	5	24 feet high.	
One pair of Do..........Do.......	6 in	5	Do.	Do.
Well, angle 19°	**times**	**minutes**		
Two pairs of Bullocks raised the Bucket	9 in	5	27 feet high.	
One pair of Do..........Do.......	6 in	5	Do.	Do

In both which cases it will be observed that one pair of Bullocks raise a much larger proportionate quantity of water than two pairs.

9. In another Bhowrie the common every day work was, to raise a bucket discharging 67½ gallons (689) lbs. once a minute from a depth of 20 feet. The two bullocks worked 8 hours a day and the foregoing had been their daily performance for 6 months prior to the experiment being taken. Angle of plane 19°.

10. "Three men and two oxen work a môt (Bhowrie) from "morning till evening with a refreshment of only about ¾ of an "hour. In a well 33 feet from the surface to the water, a môt in "half an hour drew 7210 lbs." Vol. 2, Calcutta gleanings in Science page 29.

11. In 1831 I had occasion to ascertain the quantity of water drawn daily for the use of the Government Gardens at Madras, and I found that a pickotta (lever machine) worked by 3 men discharged 6 times per minute, 75 lbs. of water raising it 14 feet high.

12. "A latha (Pickotta) in a well from which it was 36 feet to the water from the surface in half an hour drew 1357 lbs. avoirdupois of water." Vol. 2 Cal. glean. Science, Page 29.

13. As the gravity, or weight of either man or beast, is far more effectual in mechanics, than the exertion of simple muscular effort, I shall conclude these examples of practical data by two such cases from Brewster's Ferguson's Lectures. Vol. 2 P. 9. Ed. 1823. I presume that pumps were used in both these instances.

14. "According to Dr. Robison a feeble old man raised 7 cubic feet of water, =437½ pounds avoirdupois 11½ feet high in a mi-

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nute, for 8 or 10 hours a day, by walking backwards and forwards on a lever."

15. " A young man weighing 135 lbs. and carrying 30 lbs. raised 9¼ cubic feet of water = 578$\frac{1}{10}$lbs. avoirdupois, 11½ feet high for 10 hours a day without being fatigued.

16. Before I proceed to remark upon the data thus laid down, I must insert a few experiments on the strength of Bullocks with which I have been favoured. They were made a few years ago at Seringapatam, by a gentleman who had given much attention to the subject and there is every reason therefore to believe that they have been accurately made and may be depended on, while they are the more valuable because they are sound and of direct practical utility. The cattle employed were of 3 different sizes;—large, inferior and small. The large cattle weighed about 850 lbs. each, the inferior about 700 lbs. each, the small about 500 lbs. each. They drew up out of a dry well weights by means of a rope and pulley; they were yoked in pairs as usual; but had a 56lb. weight hung to the yoke to assist traction.

The large size	pair	drew up	with tolerable ease	430 lbs.	with difficulty	486 lbs.
The inferior	do.	do.	do.	346	do.	402
The small	do.	do.	do.	274	do.	386
A very large pair of Nellore Bullocks		do.	do.	627	do.	682

17. The dynamical unit of writers on mechanics varies. I shall adopt that of Mr. Watts in estimating the power of his steam engines, which is equivalent, to 33,000 lbs. raised one foot high per minute, or to a force of traction of 150 lbs. moving at the rate of 2½ miles an hour for a one horse power. Let also 6 men be considered equal to one horse, and the dynamical unit for one man will be 5,500 lbs. raised one foot high in one minute, which is indeed a very high estimate, to be attained in practice only by the physical weight or gravity of a man acting in connexion with his muscular effort; but if any one prefer a different unit or equivalent as the measure of force, it will be easy for him to reduce the following numbers.

18. I shall now collect in one view the relative values of the foregoing examples.

	Raised one foot high in one minute.
A one horse power is equal to	33,000 lbs.
The power of one man is equal to	5,500
The two pairs of Bullocks (8) well angle 14°	31,200
The one pair do. „ do.	18,720

The two pairs do. „ well angle 19°	....	31,590
The one pair of do. „ do.	....	21,060
The Bhowrie (9) one pair of Bullocks	....	13,780
The 3 men and two oxen (10) (Bengal)	....	7,931
The pickotta worked by 3 men (11)	......	6,300
The do. worked by 2 men (12) (Bengal)	....	1,628
The feeble old man (14) (Europe)	....	5,031
The young man (15) (Europe)	....	6,647

19. It will be observed how fluctuating and discrepant these results are, but so they must of necessity be:—the workmanship and nature of the machine will make some difference, and the variation of animal strength and condition will make it much greater. The two last examples seem to imply that the Pickotta might be much improved, for one man at home appears by the last example to have done as much work as 3 men in the Government Gardens, at Madras (11).—The Bengal practice exhibits a very low result.

20. We may now proceed to investigate the probable performance of a machine on the principle of the model herewith submitted.

21. The Bullocks employed in the Bhowrie experiments Para. 8 were of a large size and the quantity of water drawn up by them was 650 lbs. But large sized bullocks according to the experiments of Para. 16 drew up and with difficulty a weight of only 486 lbs. It is clear therefore that the force of traction on a horizontal plane is far less than in a Bhowrie and that it cannot be estimated so high as in the foregoing experiment. The gentleman to whose kindness I am indebted for these trials thought that $\frac{1}{3}$ of 430 lbs. (the smaller weight) would be a fair estimate for continued labour. I think so too; let us therefore fix the force of traction for a large sized pair of Bullocks at 140 lbs.

22. I have ascertained from observation that Bullocks walk in a mill track at the rate of 150 to 270 feet per minute according to the lightness or laboriousness of the work to be performed. As a further datum let us therefore fix the measure of force for one pair of strong Bullocks at 140 lbs. moving at the velocity of 200 feet per minute.

23. Then suppose a machine on the plan of the model to raise water 27 feet high. Its effect would be as follows.—The pin and swivel C. must be fixed at 13 feet 6 inches from the centre, and as this happens to be a convenient mean radius for the diameter of the mill track, the force of traction, and power of leverage will be equal. The velocity of the Bullocks being 200 feet

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per minute it may be found by a simple process that they go round 2.37 times per minute and consequently raise each bucket an equal number of times, or 140 lbs. of water 4.74 times per minute, 27 feet high, which is equal to the performance of a Bhowrie. If the value be resolved, it will be found equivalent to 17.917 lbs. raised one foot high per minute: if 2 pairs of Bullocks be employed the effect will be doubled.

24. As I have made no allowance for friction, nor accidents, I know not but this estimate may be higher than what would result in practice. Some indeed may think that because the arrangement provides a double action and because it has somewhat of a mill-like form, it ought to do more work than the simple unartificial Bhowrie. It should be considered that the circumference of the mill-track occasions an additional space of ground to be passed over, and that the force of traction on a horizontal plane is far less than down a slope. If therefore the performance at all equals that of a Bhowrie, the arrangement ought to be considered good, and the machine unobjectionable.

25. The fact is that both the Bhowrie and Pickotta are constructed on principles of the soundest science. They exemplify the finest adaptation of means to the end; of the application of animal strength to the production of mechanical power. They are, it is true, in construction, simplicity itself; but with all our science they leave very far behind our common applications of animal power to the production of mechanical effect. Simplicity as contradistinguished from complexity, is the perfection of science. What can be simpler in principle than the expansion of mercury and water by heat, and what, as applied to practical and scientific purposes, is more beautiful, or more efficient than the barometer and Steam Engine?—A bullock walks down an inclined plane and by a rope passing over a pulley raises up a bucket of water far heavier than he could raise by mere muscular effort. Multiply wheels and levers and complicated apparatus as much as you please, and you will never make the bullock perform more work than by his simple rope and bucket;—you may enable him by the intervention of machinery to raise a load a thousand times heavier, but he will be a thousand times longer in raising it, and you superadd the friction of the machine, which, in complicated engines, is not a trifle. The same principles applies, whether you have two wheels or five hundred. The ultimate effect, in the same space of time will and must be less than that wherein

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the application of the first power is direct and unembarrassed with the friction of machinery, all other things being equal.

26. I know of one method only by which the common Bhowrie and Pickotta might be made to perform more work in an equal time, but as this paper is sufficiently long, I reserve for a future communication what I may have to say on that point.

MADRAS, 1st February, 1834. } MECHANICUS.

III.—*Translation of an Extract from Tohfet al Akbar; or, a history of the Rulers, Rajahs and Jaghiredars of the Carnatic. By an Officer of the Madras Army.*

To The Secretary of the Madras Literary Society.

SIR,

I beg to forward you two literally translated extracts from a Persian work in manuscript, written about the year 1821, intitled the " Tohfet al Akbar," and which purports to be a history of the Rulers, Rajahs, and Jaghiredars of the Carnatic. These extracts profess to pourtray the characters of two eminent men, whose names will live in the history of India, Sir Thomas Munro and Sir John Malcolm—and, as genuine specimens of the persian literature of the present day, and not without intrinsic merit, they may probably be thought worthy of insertion in the Madras Literary Journal. They possess, however, much greater interest as exhibiting the unbiassed sentiments of a native of India on the qualities and virtues of those distinguished individuals, whose acts have had such an influential effect on the destinies of India, and the establishment of the Anglo-Indian empire. These translations are from the pen of a young Madras Officer, a friend of mine, now serving abroad, whose talents and attainments as an orientalist are, I am happy to say, gradually becoming appreciated. In furnishing them to me he has forbidden my publishing them with his name, or I should have sent them to you under it, and without this preface from myself.

I have the honor to be,
Sir,
Your very obedient Servant.
GEO. NORTON.

MADRAS, *7th Jan.* 1834. }

Mention of Colonel Thomas Munro, his habits and employments.

" This humblest of mortals, at a remote period when Colonel

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Thomas Munro was a Quarter Master of Brigade, was acquainted with his quickness of comprehension and sound judgment; and knew him to be well skilled in the languages of Persia and India; it is not likely at the present time that these languages are obliterated from the page of his memory."

"His disposition was bent on rectitude of conduct and seeking out justice."

"He took great pains in the acquirement of Persian and translated difficult and abstruse epistles without the assistance of a Moonshee and comprehended their purport with great celerity."

"In Lord Hobart's time he was appointed to the collectorship of Bellary."

"It has been heard, from persons worthy of credit, that Colonel Munro was indefatigable in the performance of his duties as collector of Bellary and transacted public business in so satisfactory a manner that not a murmur was ever heard to escape the lips of the Ryots."

"He was accustomed to hear and decide in person Zillah matters, and never suffered any negligence to occur in the investigation and administration of justice to the oppressed and finished all matters of business with dispatch."

To a knowledge of the duties of his office he added the qualities of bravery and courage."

"He was employed several years in the collectorship of Cuddapah. Although, four years ago Colonel Munro was appointed in Europe to a high station and returned to this country with Governor Elliot, and endeavoured, to the utmost of his power, to introduce a system, invented by himself, into the management of the affairs of the Carnatic and the Balaghat, yet, through want of unanimity and concurrence of several gentlemen of confined views, the wise designs of Colonel Munro made no further progress: and the system, he had set his heart upon, came not into practice."

"On this account he became constantly thoughtful and amazed and eventually, a short time ago, departed to Europe in this state of grief."

The Colonel is a man of patience and penetration.

Thanks be to Allah! it has been heard from persons worthy of belief that he is coming out as Governor of Madras.

Sir John Malcolm.

"Sir John Malcolm is one of the exalted of Europe. It is necessary to premise that a description of the beauties of his noble vir-

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tues and lordly generosity is far beyond the scope of my pen. Lofty minded he values the wealth of the world as worthless gravel."

"Eminently wise he enters into the comprehension of weighty matters and accomplishes them with ease and facility."

"The power of his presence and conversation is so great that after one or two interviews the stony heart (of his hearer) melting as wax yeilds and is moulded accordingly."

"Anterior to these times, Sir John Malcolm, through reason of superior capability and fitness, has at three different periods travelled to the regions of Tsfahan and transacted the affairs of the Company to their satisfaction, and has on several occasions been admitted into the presence of Futteh Ali Shah, King of Iran, and honored and exalted by his princely munificence."

"The high born Oomras and inhabitants of Iran were beyond bounds desirous of his society. In journeying to Iran he experienced many dangers and difficulties. By bestowing "Nazrs" and Maums he is celebrated for generosity and liberality."

"The Persian language falls from his lips with the perfection of eloquence, he is also acquainted with the languages of India—in addition to perfection of knowledge he possesses the gem of valor and courage. In diplomacy and political affairs, he is sagacious and discerning."

"Notwithstanding his elevated rank he is entirely divest of pride and self importance; and manifests to his confidants more kindness and condescension than a father."

"He is naturally partial to travelling and field sports, and esteems a good horseman."

"He exerts himself to the utmost in completing any matter to which he has once turned his attention. He regards with a favorable eye the just privileges of old servants, and never rejects a beggar from the door of his wealth.

"In the society of his equals Sir John Malcolm evinces such warmth and vivacity that every individual becomes desirous of his company and eloquent in his praise."

"In short, this historian has never, at any time observed the brow of this celebrated chief ruffled but at all times unclouded and his countenance cheerful."

"In Governor Elliot's time the seizure of the Mahratta country which was fallen into the hands of the Company was entirely brought about by his agency."

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"Although this destitute (the writer) during his lifetime has met face to face many chiefs the like of Sir John Malcolm he has never seen."

QUATRAIN.

"General Malcolm is the benefactor of the age
"His good name is as the sun to the world;
"O God! continually increase his life and prosperity
"So long as the moon, the earth and heavens revolve."

We have much pleasure, at the request of a Subscriber, in giving insertion to the following interesting letter extracted from the Cape of Good Hope Literary Gazette.—Ed.

IV.—MARINE BAROMETER,—THEORY OF STORMS, ETC.

To the Editor of the Literary Gazette.

Newlands, 18*th June*, 1833.

Sir,—I should on no account have acceded to your request of me to sanction the re-publication of a letter which appeared in the *South African Chronicle* nearly nine years ago, for I have not the vanity to think that any production of my pen can be worth a second perusal, had I not been influenced by the following considerations which you have so particularly brought under my notice;—first, that there are many gentlemen from India now in this colony for whose character and acquirements I have a high respect, who have expressed a desire to this effect,—secondly, that some of the arguments and facts it contains have been deemed of sufficient importance to require a more extended promulgation. Under these circumstances, I have the pleasure to send the letter referred to, *revised*, and very much at your service.

Without, therefore, any further preface, I shall proceed to my remarks on the *Marine Barometer.*

I am, myself, apt to set so high a value on this instrument, from its affording an infallible indication of those dreadful hurricanes, which are so prevalent in the West Indies, the China Seas, the Bay of Bengal, and other parts of the Indian ocean, especially in that part comprised within the islands of Java, Sumatra, and the Isle of France, that I think, any information tending to elucidate its advantages, cannot be too widely promulgated.

Every one at all acquainted with the mechanism of a Barometer, is

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aware that its construction originated in a discovery, that the mean density of the atmosphere is capable of supporting a column of mercury equal to about thirty inches in length, hence it follows that every deviation of the quicksilver from this height, is the result of a correspondent change, in the actual gravity of the surrounding atmosphere, the trifling effect of the cohesive properties of the tube being duly allowed for. But although this may be sufficiently evident to a common observer, it is certain that these changes depend upon so many hidden causes; and are generally so minute that they are scarcely perceptible to the eye, and are frequently unaccompanied by any visible change of the weather. It is a well established fact, that the Barometer undergoes but little or no variation throughout the region of the tropics, unless when it happens to be under the influence of an approaching hurricane, and then it is no less certain that the quicksilver falls rapidly and considerably, a natural consequence it would seem, of the origin of these storms, which exceed in violence those of the more boisterous climates of Europe, as much as the situations in which they are generated, at other times exceed them in mildness. An infinite scope still remains for a philosophical inquiry into the theory of winds, nor have I yet met with any satisfactory explanation of the course of these awful phenomena in the heavens. If I may presume to venture an opinion on so abstruse a subject, I should say that a tropical hurricane is produced by the rays of a vertical sun acting upon some portion of the atmosphere that happens to be unusually loaded with the electric matter so abundantly generated within a few degrees of the equator, whereby a rapid rarefaction of the circumjacent atmosphere takes place, repelling in its escape the surrounding air, until the existing cause has exhausted its influence, when a reaction commences, by the condensed air rushing towards the centre of the atmospheric rarefaction until the equilibrium is restored.

If this theory should prove to be well founded, it would, perhaps, sufficiently account for the great and sudden falling of the quicksilver on such extraordinary occasions; but, as Dr. Franklin very justly observes, in his Treatise on Electricity, "it is not of much importance to know the manner in which nature executes her laws; it is enough if we know the laws themselves;" so it may be said, that on all these occasions, whatever may be the immediate cause of the fall, provided we are aware of what is to follow, we are furnished with all the requisite information to guard us against the

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consequences. A thorough knowledge of these consequences is only to be acquired in the school of experience, and it is perhaps for that reason that I feel anxious to impart the benefits of my own, knowing that the warnings of this infallible monitor, have been but too often fatally slighted. Because, forsooth, that part of the ocean to which these remarks have reference, is frequently sailed over without the occurrence of any thing approaching to a storm, and because the Barometer may, and does frequently remain nearly stationary throughout the whole of this large portion of the voyage to and from India ; is it therefore reasonable to infer that its utility ceases ? on the contrary, the fact of the Barometer not being affected by any change in the atmosphere except when under the influence of an approaching storm, is the very circumstance which, in my opinion, more particularly enhances its value. In high latitudes, the eye of an experienced seaman will prove a tolerably correct substitute for a Barometer, but the tropical hurricane, unlike the storms of higher latitudes, but seldom gives any warning of its approach, and consequently the index of the Barometer affords the only indication to be relied on. The practical inference which I think myself at liberty to draw from these premises is, that whenever, or wherever within the tropics, or rather when in the more immediate neighbourhood of the Equator, a rapid and considerable fall of the quick-silver is observed to take place, it may be taken for granted that an extraordinary degree of rarefaction of the surrounding air is in progress, and that it will speedily be followed by a violent reaction. From that moment the ship may be considered to have perforated the confines of a circle, the centre of which will shortly become the focus of a tornado, which, like the centre of a whirlpool in a different element, cannot be approached but at the hazard of her destruction, a lot which may befal her in spite of any exertions, however indefatigable, of the most skilful and able-bodied crew. I am aware, however, that instances are to be adduced of ships having encountered hurricanes, without sustaining any serious injury, but I have reason to believe that, in most of these instances, if not in all, it would be found, were it possible to ascertain the fact, that the brunt of the storm was in reality not encountered at all, that these ships were throughout far nearer the verge of the circle of rarefaction than its centre, that having been warned of its approach by the Barometer, they had sufficient good sense and foresight not to neglect it. But however this may be, no prudent man in command of a ship, knowing as he must that the lives of all under his command depend

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upon the promptness as well as the wisdom of his decision, will allow himself to be influenced by any such precedents to brave the storm, in order to evince his courage, or through any fastidious fear of committing a blunder, but that, taking the Barometer for his safest, if not his only guide, he will, from the moment of any extraordinary fall, bring his ship to the wind, and make every possible preparation to meet it. Nor will he be diverted from his purpose by any flattering appearances in the heavens.

Even if, at the moment, the sky should be cloudless, the atmosphere motionless, and no other indication of a storm throughout the whole visible horizon, than that which this invaluable instrument affords him, still he will take his measures with the same degree of promptitude and energy, as though the danger had already commenced; and when the flattering gale springs up to favor his course, he will not be tempted to pursue it through any fallacious notion of shortening the period of his voyage; for if my theory be correct, he may rest assured that, the farther he advances, the greater will be the fury of the tempest; that it is a principle of every hurricane, to narrow its sphere in proportion to its duration; and that wherever the storm commences, there will it soonest terminate; and consequently that his easiest way to escape from its fury is to remain as stationary as possible. I should not have dwelt on some of these points, had I not been aware that a notion is but too prevalent among seamen, that scudding before the gale is the shortest way to get out of it, an error which is attended with this additional evil, that those precious moments which intervene between the fall of the quicksilver and the rising of the storm, are expended (perhaps never to be retrieved,) in a proceeding which, in my opinion, is fraught with nothing but mischief.

Neither should I have ventured thus boldly to advance a theory of so much importance to the interests of navigation, were I not prepared to support it by the result of many years experience, while traversing those seas to which it is more immediately applicable.

The following particulars of one of those awful hurricanes which are known to prevail in certain parts of the Indian Ocean at particular seasons of the year, and which it was on this occasion my lot to encounter, will be found to embrace all the most material points on which I have ventured to ground this theory of storms, and I trust that the relation of them will not excite needless apprehensions in the breasts of those, among the fair sex in particular, whose destiny it may be to follow in the tract of my adventures, but rather that

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they will yield their consolation from the reflection that the greater the danger, and the more awful the consequences, the more essential it is that all such particulars should be faithfully recorded as a beacon for the guidance of others under similar trials; knowing, too, as they must, that in traversing the wide expanse of ocean, comprised between England and India, ships will be safe in proportion as the dangers they may have to encounter are accurately described. Under such circumstances, then, to withhold from publication a narrative of facts, however painful its perusal, the object of which is to prevent a recurrence of the misfortunes it details, would be no less inconsistent than to hurl the Barometer into the sea as a useless appendage to a ship, merely because, through idleness or folly, it may sometimes fail to point out the danger, or at other times prove a source of needless alarm.

It was in October of the year 1808, that I left Madras on board one of the East India Company's ships, with eight others under the convoy of a seventy-four gun-ship. On reaching the latitude of 10° south, and the longitude of 78° east, we unfortunately encountered one of the most tremendous hurricanes that was, perhaps, ever experienced by a ship that did not actually founder. It is impossible to convey to the minds of those who have never witnessed such a storm, any adequate idea of the fury with which it blew during the three days and nights of its continuance, the sound resembling more a succession of peals of thunder, or the roaring of cannon, than of wind; whilst the sea formed one continued breach over the ship, sweeping every thing moveable before it. During nearly the whole of this period, the passengers, officers, and crew were, without distinction of persons, employed in pumping or bailing, cutting away masts, securing guns, or in other work essential to the safety of the ship; whilst, owing to the impracticability of getting into the hold through the body of water always lodged on the gun-deck, the chief part of the period was passed without food, or even a drop of water to allay the thirst of the men at the pumps, who were with difficulty, and occasionally could not be prevented from swallowing the bilge water as it ascended from the well. And had it not been for the fortunate circumstances of a quantity of this precious beverage being found in the lockers of the great cabin, which had been bottled and placed there by one of the cabin passengers, which was latterly served out at the pumps in wine-glasses, the probability is that we should have literally perished through the want of a liquid, of which there was an abundance in the hold. Our distress, too,

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was not a little aggravated by two of the twelve-pounders being adrift at once on the gun-deck, causing the greatest consternation lest some port should be stove by their means. Notwithstanding the fore-mast, mizen-mast, main-top-mast, and bowsprit were,at the peril of our lives, alternately cut away, at the close of the third day, we were left with seven feet of water in the hold, and four feet in parts of the gun-deck,frequently with three out of the four pumps choked at a time, and without the slightest prospect of any abatement of the storm. Heaven only knows whether the wonderful alteration which soon took place after the close of this day in our desperate situation, was owing to an especial interference of Providence ; but if the elements by which this globe is governed, in its course, are ever for a moment turned aside for the benefit of frail mortality, a scene was now exhibited which might have been deemed sufficiently appalling by an All-merciful Being, to call forth such an interposition.

I have been a witness to many a distressing scene, on the ocean in the course of my practice, the recollection of which may in some degree account for these serious reflections, and form some apology for their intrusion here. I have seen a ninety-gun ship take fire, burn nearly to the water's edge, and blow up. This noble ship, which had twelve hundred people on board at the time, many of whom perished in her, notwithstanding every possible exertion was made, with the assistance of the engines of thirty sail of the line and frigates to extinguish the flames, and to rescue the men from destruction. I was once awoke out of my sleep by an explosion which proved to arise from the blowing up of an India-man at no great distance from the ship I was in, owing, as it was supposed from the state of the weather, to a flash of lightning having entered the magazine, where five hundred barrels of gunpowder were stowed, destined for the Cape. I need scarcely add that the crew, one hundred in number, were blown into the air, and that not a soul survived to explain the cause, or to record the fact. I was once myself in a ship that was struck by lightning, when some of the masts were shivered into a thousand pieces; and, had not the lightning taken a diagonal direction at the critical moment of its entrance into the body of the ship, the probability is that her destruction would have followed. On another occasion I was in a ship which took fire, when such a formidable volume of flame rushed from the deck beneath, as to render every chance of quenching it

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apparently hopeless: it was, however, eventually got under by an extraordinary display of skill on the part of an individual, backed by the exertions of the crew. I have been in a storm off the Cape, when, after a sudden shift of wind, the commodore of the fleet, in one of the strongest ships ever built, on her first voyage to sea, crowded with passengers from Calcutta, suddenly disappeared, and was never seen or heard of more; the natural inference was, that she had gone down stern foremost, and that every soul on board had perished. I have experienced the shock of an earthquake at sea, several hundred miles from any land, and consequently beyond the reach of any soundings; the fact having subsequently been proved by accounts from Manilla, the nearest land, where an earthquake on the same day, and nearly at the same moment, had occasioned considerable devastation. So violent was the shock we experienced, that one of the ships of the fl et leaked considerably in consequence. It is the only instance of the kind I ever heard of at such a distance from land; I should like, therefore, to see this extraordinary phenomena philosophically accounted for. The water was not unusually agitated, the wind was moderate, the sky serene, and no one indication of such an event throughout the horizon. Was it, allow me to ask, the effect of electricity? If so, I should wish to be informed how the electric fluid came in contact with the ship, for, if the sea became its only conductor, for as the fleet was spread over several miles of space, and every ship more or less sustained the shock, the whole of that part of the ocean must have been impregnated with it. I once landed from a ship in Table Bay, when, within a few hours of my reaching the shore, she parted from her anchors in a sudden north-wester, and became a wreck. My family were all on board at the time, who, after a night of infinite peril, expecting every moment to be their last, the rudder beaten off, and the ship nearly filled with water, were with difficulty rescued from a watery grave. These and many other distressing scenes of a minor description have I witnessed, but never, in the course of my practice, have I been present at one half so distressing, at least to my own feelings, as the one which I have now more immediately under consideration. Those which I have just taken a cursory review of were, it is true, in some instances, infinitely more fatal in their consequences, and in one case, the momentary pang of affliction could not, I admit, have been surpassed; but the scene I have already given an outline of, and am now drawing to a close, was

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one of peculiar excitement, painful feelings, and of heavy responsibility. Well may the Psalmist say. "These men see the works of the Lord, and his wonders in the deep." But, to return from this digression. At the close of the third day of this awful hurricane, the cabins below being no longer habitable, the passengers were crowded into one side of the round-house, as being the only cabin from which the water could be effectually excluded. Here, then, a scene of woe was exhibited which baffles description, and was sufficiently appalling to rend the stoutest heart in twain, more, especially of his on whom all eyes were turned for consolation or assistance, neither of which was it in his power to offer, even to her who had the strongest of all claims on him for both, and whose peculiarly interesting situation demanded the utmost stretch of his sympathy. The ship, if not absolutely water-logged, was now observed to be settling fast forward. Every countenance exhibited a picture of despair; when, at this critical moment, the wind rapidly began to subside, which was no sooner announced to the people at the pumps, than their labours, which, from a feeling of despondency, had previously languished, were resumed with renewed vigor; and such was the rapidity of the change in our favor, that one of the most dreadful of all storms was speedily lulled into a perfect calm, the ship once more rose freely to the sea, and by day-light on the following morning all the water was discharged from her.

The scene which now presented itself was of a very different description, but still it was not without its alloy, and under any other circumstances might have excited feelings of despondency, instead of excess of joy. The ship lay a helpless wreck on the water, exposed to every surge of the sea, which had not subsided so rapidly as the wind, and which occasioned her to roll most awfully; and now, as she rose on the mountainous billow, every eye eagerly swept the horizon in search of the fleet, but all in vain, for not a ship could be seen; we therefore trembled for their fate. The bowsprit, fore-mast, mizen-mast, and main-top mast, as before intimated, were all gone by the board, the whole of the live stock, (with a trifling exception,) consisting of 150 sheep, 30 pigs, 4 cows, 3 calves, 8 goats, and many hundred head of poultry, were washed over-board, or otherwise destroyed; nearly all the captain's stores, the medicine chest, and the seamen's chests, with their contents, were in the same predicament. After an anxious scrutiny of the charts, no friendly port was found to be within reach of us; the

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nearest towards the east was Bencoolen, which, on account of the season of the year, was difficult of approach, and incapable of affording the relief we stood in need of. Towards the west was the Isle of France, then in possession of the French. To proceed direct to the Cape was an undertaking which, at the first blush of our situation, nobody conceived to be practicable. Still, upon a closer inspection of our resources, many difficulties were obviated, and our situation appeared to be far less desperate than we had at first imagined. Our stock of water and salt provisions, which was considerable, was happily found to be uninjured: we had rice and spirits in abundance. Our spare stock of spars, which was also considerable, and well secured before the storm commenced, was safe; we had spare sails, canvass, and cordage sufficient, and we knew our situation to be on the verge of the south-east trade-wind, which blew direct towards the Cape, and the season for entering Table Bay was favorable. After due deliberation at a meeting of the officers of the ship, and the principal passengers, it was unanimously resolved to undertake the voyage to the Cape; and, as an encouragement to the crew to give their spontaneous exertions in favor of this great undertaking, a subscription was immediately entered into, with a view to replace their chests, clothes, &c. which were lost in the storm. Seven hundred pounds were raised for this purpose in the course of a few minutes, (perhaps an unprecedented act of liberality,) which was no sooner communicated to the crew, than they gave three hearty cheers, and declared their readiness to perform every duty required of them; and never was a promise more strictly fulfilled: however, in spite of these but seldom paralleled exertions, we were eleven weeks in reaching the destined port, after suffering many privations. Still I consider this as one of the happiest periods of my life; and judging from the number of cheerful countenances, and the unanimity which reigned throughout the ship, I much doubt whether it were not the lot of every soul on board.

I cannot account for the fact, unless it was owing to the peculiar frame of mind which we had imbibed from our recent deliverance, —a frame of mind which philosophy would spurn at, but which religion might have hailed as the precursor of the only solid happiness destined for man.

The day of our arrival in Table Bay was one of intense excite-

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ment, anxious as we naturally were, to ascertain the fate of a fleet from which we had separated eleven weeks before under such unpropitious circumstances. This suspense, however, was of short duration; our worthy Commodore, with five of his convoy, were soon discovered to be safe at anchor in the Bay, the remaining three ships were missing, and, sad to tell, have never since been heard of. Of those which were safe, four, including the seventy-four gun-ship, had been in more or less danger of foundering in the storm, whilst two escaped without injury; owing, as it appeared from a comparison of Journals, to their having escaped the brunt of the storm by being considerably to windward of the others; thus corroborating, the theory with which I commenced, in my endeavours to prove that where the storm begins there will it soonest end; a great part of the third day, which was by far the most tempestuous with us, these two ships lay perfectly becalmed.

Such were the disastrous effects of this memorable hurricane, from a summary of which I think myself entitled to draw the following practical inference; namely, that had we instantly attended to the timely warning of the Barometer, by bringing the ship to the wind, and making preparations for the storm, instead of scudding before it, until we could scud no longer, we should have escaped with as little injury as the two ships I have just alluded to, and that had the three unfortunate ships which foundered in the storm pursued a similar course, which it may be fairly presumed they did not, a very different fate might have befallen them too.

But, lest the fatal catastrophe of this hurricane should not be deemed sufficiently conclusive, I shall mention the result of another, no less fatal in its consequences, which was encountered in the following season by another fleet of Indiamen, nearly in the same latitude and longitude, whilst under convoy of the late Lord Exmouth. On this occasion four of the finest ships of the fleet, crowded with passengers from Calcutta, were supposed to have foundered, as they were missing immediately after the storm, and were never heard of more. The last time they were seen was by Lord Exmouth himself, when they were observed to be scudding before the gale, whilst the rest of the fleet were lying-to.

Here, then, we have another melancholy instance in point, which, coupled with the preceding, ought to satisfy the mind of the most sceptical seaman, as to the infallibility of the Barometer in indicating the approach of hurricanes, within the tropics more particalarly,

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and consequently of the inestimable value of this instrument to every commander of a ship, and more especially to those whose destination is India.

I am, Sir, your obedient Servant.

MERCURIUS.

V.—Memorandum on the Tides at Madras, *November* 1821.

By Lieut. Col. DeHavilland of the Madras Engineers.

The results of the observations made on the tides at Madras by the means of a *Tide Gauge* near the north east angle of the glacis of the Fort from the 31st May to the 10th October 1821 inclusive, were as follows. That high water on the full and change of the Moon, was at 8h 58 or 9h. That on those days the difference of elevation of the surface of the sea at high and low water, was 2 feet 7¾ inches; that on the 4th days of the Moon's age, and the corresponding days after the full, this difference was 3 feet 5¼ inches the *maximum* and that the 2d days after the 1st and 3d quarters, it was reduced to 1 foot 7½ inches the minimum. It was also observed, that the daily decrease was *greatest*, on and immediately before the 1st and 3d quarters, and the increase *least*, immediately after. It was likewise remarked, that the average level of the sea at mid-tide, or between high and low water, *varied* with the Phases of the Moon. That it appeared *highest* on the 3d days of the Moon's age, and the corresponding days after the full, and *lowest* on the 2d days after the 1st and 3d quarters—and the difference was observed to be about 1 foot 4 inches; but it is probable that this being so great, was owing to some anomaly, in the observations made on the 3d days of the Moon's age, and those corresponding after the full, and that in point of fact, it was not more than 1 foot. The following table contains the particular of these results. The retardation of the tides from day to day was considerably less for the first four or five days after full, and change than at any other time; it was then about 30 per diem.

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Results of the observations made on the Tides at Madras from the 31st May to the 10th October 1821 by means of a *Tide Gauge* fixed near the north east angle of the Fort.

Phase and age of the moon.	Time of high water.		Surface of the water *below* the *gauge* mark. At high water.		At low water.		Medium level of the sea.		Difference between high and low water mark.	
	Ft.	Ins.	Ft.	Ins.	Ft.	Ins.	Ft.	Ins.	Ft.	Ins.
full and change	8	58	5	3¼	7	11	6	7⅛	2	7¾
2d and 16th	9	26	5	1½	8	1	6	7¼	2	11½
3rd and 17th	10	0	4	7½	7	8¾	6	2⅛	3	1¼
4th and 18th	10	30	4	9¾	8	3¼	6	6½	3	5¾
5th and 19th	11	0	4	10½	8	1¼	6	5⅞	3	2¾
6th and 20th	11	42	4	11¾	8	2	6	6⅞	3	2¼
7th and 21st	12	12	5	3½	7	11¾	6	7⅝	2	8¼
1st & 3d Qrts	12	30	5	4½	7	9½	6	7	2	5
9th and 23rd	1	21	6	1½	8	0	7	0¾	1	10½
10th and 24th	3	6	6	4½	8	0	7	2¼	1	7½
11th and 25th	4	45	6	6	8	3	7	4½	1	9
12th and 26th	5	24	6	7	8	5¼	7	6⅛	1	10¼
13th and 27th	6	25	6	4¾	8	4¾	7	4¾	2	0
14th and 28th	7	11	5	11	8	0½	6	11½	2	12
29th	7	37	5	8¼	8	0¼	6	10⅛	2	4
					8	1				
Average mean level of the sea in the whole period							6	10		

It is necessary to notice that until the 29th of July the observations were frequently interrupted, but that after that date they were made daily, at every tide, in every 24 hours; and as there appears some difference in the results obtained from the subsequent period, they are given in the following statement.

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Similar statement as the above from 29th July to 10th October 1821 both inclusive.

Phases and age of the moon.	Time of high water.		Surface of the water *below* the *gauge* mark.						Difference between high and low water mark.	
			At high water.		At low water.		Medium level of the sea.			
	Ft.	Ins.	Ft.	Ins	Ft.	Ins.	Ft.	Ins.	Ft	Ins.
full and change	8	54	5	4½	8	4½	6	10⅜	2	11¼
2d and 16th	9	24	5	0½	8	4½	6	8¾	3	3¾
3rd and 17th	9	54	4	11¾	8	3	6	7⅜	3	3¼
4th and 18th	10	24	5	0⅛	8	2	6	7	3	1⅞
5th and 19th	11	0	4	10½	8	1	6	5¾	3	2½
6th and 20th	11	42	4	11¾	8	2	6	6⅞	3	2¼
7th and 21st	12	12	5	3½	7	11¾	6	7⅝	2	8¼
1st & 3d Qrts.	12	50	5	4½	7	9½	6	7	2	5
9th and 23rd	1	21	6	0⅛	8	0¾	7	0⅜	2	0⅝
10th and 24th	3	6	6	4½	8	1⅜	7	3	1	8⅞
11th and 25th	4	24	6	6	8	4	7	5	1	10
12th and 26th	5	24	6	7	8	5⅝	7	6¼	1	10⅝
13th and 27th	6	18	6	4	8	4⅜	7	4¼	2	0⅝
14th and 28th	6	48	5	10⅛	8	2¾	7	0⅜	2	4⅝
29th	7	37	5	5	8	1¼	6	9⅛	2	8¼
					8	2½				
Average mean level of the sea in the whole period							6	10¾		

Although this statement appears less anomalous than the last in some respects, it is not so in all, and as the other has the advantage of including the period of the long shore winds and strong southern currents, it is a better average for the whole season than the last.

Much variation appears in all the daily observations, as the rise of the sea is evidently affected by the winds and currents which both tend to *accumulate* the waters.

The present *Tide Gauge* it is feared will not answer for the ensuing season as the N. E. winds have filled up the angle it is fixed in with sand, in a great degree. If it should be replaced, it would be best situated at one of the projecting angles of the Fort bulwark.

The Gauge consists of an iron pipe syphon, having one horizontal branch, sunk, in the sand below low water-spring-tides mark; and one perpendicular branch with a float and rod in it; showing the rise and fall of the water. The length of the horizontal branch

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is about 70 feet and the end of it under the surf is fixed to cross timbers to prevent its sinking deep into the sand.—The water in the upright arm of the syphon is drawn every day to ascertain that it flows freely. As the pipe is doubtless in a great measure filled with sand, it follows that the water neither flows nor ebbs in the syphon to its *exact extremes*, and therefore, that the rise and fall given in the Tables must be considered rather *under* the truth.—In many instances, the difference of high and low water is as much as 4 feet 3 inches and even 4 feet 6 inches. The beating of the surf affected the water in the pipe and the rod oscillated up and down at each stroke, but this oscillation did not exceed *half* or *three* quarters of an inch in the highest surfs.

The variation of mean level of the surface of the sea noticed above (5th column) accounts for the rise of the water in the river at Madras during the dry season. The sea on intering at the Ennore Bar, when the Chepauk Bar is shut up, comes down the canal from thence; after the full and change, the water is observed to rise for two or three days, in about as many days more, falls again; while however the daily operation of the Tides is not perceptible, from the distance of the Ennore Bar. This rise and fall has at the Wallajah bridge been frequently observed to be as much as 8 or 10 inches.

It is possible that the sea water filtering below the sands may aid this operation a little, but not much; for the ditch of the Fort which is kept full by means of this filtering underneath the sea face counterscarpe, is scarcely affected by this rise of the sea above alluded to no more than by the flowing and ebbing of the Tides daily.

VI.—Translation from a work by, M. M. Botté et Riffault, detailing the method pursued in France, of extracting Saltpetre from the soil, and of ascertaining the quality of Saltpetre by Assay. Communicated by Lieutenant Colonel Napier.

As natural mines of Saltpetre exist in France, it has long been an object of primary importance with the Government to improve, and increase the manufacture of that article, by the employment of men of science to establish manufactories upon the best and most economical principles, by which means the produce of Saltpetre was doubled in four years.

A prize of 4,000 Livres, was offered by the Academie of Science,

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with the sanction of Government, for the best mode of producing artificial Saltpetre, and was of much use at the time in drawing attention to the subject, the result however of many attempts, though successful, ended in disappointment, as the process was so expensive as hardly to repay the out-lay, by the produce.

The source from which advantage was to be expected, was that of seeking for the natural mines of Saltpetre, either in the soil or in stones, and to collect it from caves, cellars, stables, or sheep farms.

In the year 1784 M. Riffault was specially deputed by Government, to instruct the several Saltpetre manufactories in the use of Potasse (one of the most important operations in the manufacture of Saltpetre) and to form new establishments in every Province where Saltpetre could be obtained, so that in a few years, the annual produce of pure Saltpetre delivered for the use of Government amounted to 1,900,000 of Kilogrammes, of which Touraine and the neighbouring country supplied $\frac{2}{20}$, the Nitrieres, or artificial $\frac{1}{20}$, Paris $\frac{7}{20}$ and the other departments the remaining half. This last portion ought necessarily to augment, *consequent* to the *increase* of *Territory.*

Tons about . 1872 sufficient to make more than 55,000 barrels of Gunpowder of 100lbs. each.

The following are the processes established in France for the manufacture of Saltpetre.

The first process is to reduce the material which contains the Saltpetre to such a powder, as that the water will penetrate every part, and dissolve the whole of the salt.

As in France Saltpetre is chiefly found in calcareous stones, they are broken in a mill, and sifted through sieves, or broken with beaters armed with iron and sifted.

A manufacturer of Saltpetre ought to be provided with an instrument called an Arèometre for nitre, to ascertain correctly the density of solutions. The Arèometre of the Administration of France is so graduated, as to shew, when plunged into a cold saline solution the quantity of salt contained in 100 parts of the solution : for instance, if the Aréometre* when put into a cold saline solution marks 15 degrees we may be assured that for every 100

* I think it necessary to mention here, that there are two descriptions of Aréometres for nitre used in France.—First. That of the Administration, which is sufficiently explained above, and is the one referred to in this work. — Secondly. That of Baumé which is graduated so as to indicate the quantity of salt extra to 100 parts of water, so that when it marks 15 degrees, there must be 15 parts salt in solution with 100 parts of water.

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parts of the solution by weight, 85 parts consist of water, and 15 parts of salt.

The material containing the Saltpetre having been brought to a fine powder, is to be placed in large wooden troughs having holes cut at intervals along one of their long sides, and closed with wooden pegs. Water is then to be sprinkled over the earth, till it overflows and remains above it about 1 decimitre (nearly 4 inches) and left till next morning, when the plugs are to be removed, and the water allowed to flow into a reservoir prepared for it.

Place the Aréometre in this solution and if it marks 15 degrees or upwards the solution may be set aside to be evaporated, if under 15 degrees, this water, together with that which results from the further washing of the first trough, is to be used in washing the earth in the second trough.

Although it is necessary in the first operation, that the water should remain upon the earth for about 10 hours, in the subsequent washings two hours will be sufficient, or the plugs may be removed altogether.

Water is to be sprinkled as before over the earth in the first trough, till that which flows from the apertures, marks only ¾ of a degree by the Aréometre, when the earth may be removed from the trough, and replaced with fresh earth, to be treated as before, or to receive the waters from the second trough, if found to be so feeble as to require it.

River or rain water ought to be used for these washings in preference to well water.

On the treatment of the Saltpetre water, by potasse—or by Sulphate of potasse, or by ashes.

Nitrate of potasse is never found alone but mixed with muriate of soda, earthy parts and frequently also by sulphates—from the result of much experience, we may consider the saltpetre materials as containing, about 10 per cent nitrate of potasse—70 per cent nitrous earth, 15 per cent muriate of soda, and 5 per cent of earthy muriates—so that taking 100 Kilogrammes of the water obtained from washing the saltpetre earth, which marks 15 degrees by the Aréometre (indicating that the solution contains 15 Kilogrammes of salts) there is only 12 Kilogrammes of nitrate of potasse—and earthy nitrates; or about 1½ nitrate of potasse—and 10½ earthy nitrates.

It is this latter portion of earthy nitrates which it is necessary to decompose and to convert into nitrate of potass.

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For this purpose the potass of commerce, or sulphate of potass, or simply ashes may be used.

The method of employing the potass, consists in dissolving it in double its weight of water, and in this state to mix it well with the saltpetre water—this gives place on the spot to a separation of the earthy bases from their combinations replaced by the potass, and produces a precipitate, which when the operation of agitating or stirring the solution ceases, deposits at the bottom of the pan.

The quantity of potass required to be used may as a general rule be estimated at one third of the number of degrees indicated by the Aréometre, as it is better to use too little than too much—thus for instance if the saltpetre water marks by the Aréometre 15 degrees; a vessel containing 400 Kilogrammes of this water will require 5 per cent or 20 Kilogrammes of potass, and so on according to the degree indicated by the Aréometre.

On the decomposition of the earthy nitrates, by the Sulphate of potasse, as practised at the Manufactory of Saltpetre at Montpellier, by M. Berard.

The Sulphate of potass which is frequently to be procured at a very small price results principally from the combustion of a mixture of Sulphur and Saltpetre, in the fabrication of Sulphuric acid, that which is obtained by other means is generally extremely pure and is sold to advantage to chemists &c.

Having procured a sufficient quantity of sulphate of Potass to fill several pans or troughs, it is to be broken or pounded, and thrown into pans with a mixture of wood ashes, heaped up above the surface of the pan, and left a short time till the acid is absorbed. Water is then to be sprinkled by little at a time over it, until the water overflows the surface, and allowed to rest for a few hours, when the cock near the bottom is to be opened, and the water allowed to flow from it into a reservoir.

This water will at first be discoloured and cloudy, but will in a short time become clear, and when tested by the Aréometre will mark about 20 degrees.

The matter contained in the pans will have fallen considerably, and ought to be filled up with fresh materials, and the washing with water continued as before, to obtain as much of the salt as possible. If the water flowing from the pans when tested by the Aréometre is found to be too feeble, it must be used to wash another pan, till it acquires a density of about 20 degrees.

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It only remains to fill a deep pan or boiler, three parts full with Saltpetre water, and to throw upon it one fifth $\frac{1}{5}$ by weight of the water obtained as abovementioned, the solution is then to be well mixed, and left to settle, when it is to be drawn off from the surface, leaving the sediment.

The expense of this operation is a very small matter, compared to the quantity of nitrate of potass recovered which would otherwise be lost—and the saltpetre will be obtained of a fine white colour.

On the decomposition of the earthly nitrates by means of ashes.

Troughs the same as are required to wash the saltpetre earth, or wine barrels with double bottoms pierced with small holes, may be used for this purpose.

A small quantity of long straw is to be placed between the two bottoms, and also over the false bottom, covered by a piece of coarse flannel or serge.

Having prepared fresh wood ashes, by passing them through a sieve to separate the charcoal, they are to be moistened with water very equally, so that when taken in the hand they may form in lumps, in this state they are to be spread over the flannel, in the first instance to the depth of six centimetres, (about 2¼ inches) and pressed down lightly at first, and afterwards more strongly by a flat beater, continue to add fresh layers of ashes pressed down as beforementioned, until the trough or cask, is about half full, the surface being levelled each time with a trowel. It is necessary to place over the trough in which the ashes are placed a hurdle, or basket with some straw in it, to prevent the loss of water.

All that is necessary then, is, to pass the *Saltpetre* water through the ashes, in the proportion of fifteen measures of water, for one of ashes. After which the ashes which remain may be mixed with fresh saltpetre earth, to disengage by washing any saltpetre remaining in them.

If the use of ashes does not altogether supercede the employment of potass, still they will assist, and diminish the quantity of alkali required to be used, according to the proportion of alkali, contained in the ashes.

To ascertain the quality of the ashes to be used, take about 25 lbs. of them, and wash with water, till no salt remains in the ashes; filter this water, and then evaporate it to dryness in an iron pan, taking care to remove the different salts which may precipitate, during the operation, and to constantly stir the salts at the time of desiccation, in order that they may not adhere to the bottom of the

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pan—the produce thus obtained will shew the quantity of alkaline matter, changed with a part colouring and extractive, and a portion of foreign salts.—If this produce is calcined in a crucible, the pure potass alone will remain.

Mode of conducting the evaporation.

To proceed with advantage in this operation, it is necessary, first. That the saltpetre water should be of sufficient strength to prevent the unnecessary expenditure of fuel—second. That the water should have been sufficiently treated with potass, to admit of the evaporation being continued to the extent required, without that swelling or over boiling which is hurtful—and lastly. That there should be a sufficient quantity of water collected, before the operation is commenced upon, not only to fill the boiler, but to fill it up, as the water evaporates, and by continuing this operation without ceasing to obtain by *one* process as much Saltpetre as possible.

In general it is advisable to stop the evaporation at the point when the nitrate of potass and the water are in equal parts as the operation can be better conducted, with less obstruction from the earthy salts, and other refuse more easily and exactly separated, than if pushed further.

Accordingly it is only by knowing the capacity of the boiler, that a calculation can be made. If for instance the water shews a density of 15 degrees by the Aréometre for nitre—which indicates that it contains 0.12 of nitre- and if the boiler contains 1200 Kilogrammes—then this quantity of saltpetre water, may be considered to consist of 1020 Kilogrammes of water, and 180 Kilogrammes of salts, or about 144 Kilogrammes nitrate of potass, and 36 of Muriates, in order therefore to bring the nitre and water to equal parts, 876 Kilogrammes of that salt must be added, this quantity of nitre is represented by 7,300 Kilogrammes of saltpetre water at 15 degrees, or 12 per cent.

Accordingly it is this quantity of 7,300 Kilogrammes equivalent to 68 hectolitres (about 1,743 English gallons) with which it is necessary to fill up the evaporating boiler; when all this additional water has been evaporated the operation may be brought to a conclusion.

Having collected a sufficient quantity of saltpetre water to carry through one operation, the boiler is to be filled, and brought to boil, and replenished gradually as the water evaporates, this is best done by placing a pan, kept constantly full of this water, near the surface of the boiler and by means of a stop cock, to let off the water gradu-

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ally as required, so that the boiling may not be checked by a large addition of water at any time—this pan may be heated by a flue from the furnace, by which means a considerable expenditure of fuel will be saved.

As a considerable quantity of earthy matter &c. will soon begin to fall to the bottom of the boiler, and form a hand cake, which is very injurious to the metal, a small pan ought to be placed in the centre of the solution, raised two inches from the bottom of the boiler, in which this earthy matter will collect, this pan is to be suspended by means of iron chains, connected by a rope to a pulley above, so that it can be raised up from time to time, and its contents emptied into a box or basket placed at the edge of the boiler, to allow the water to drain back. It is essential that the solution should boil at an equal steady temperature, increasing or diminishing the fire as may be necessary, and the skum ought to be carefully and frequently removed.

When all the extra water has been added, the pan is to be withdrawn from the bottom of the boiler—The common salt will then begin to fall, and must be removed with a scoop ladle from the bottom, and placed, in a basket as beforementioned to drain.

It is proper at this period to decrease the fire which delays the operation, but the results are thereby obtained with more regularity. When the common salt falls to the bottom in abundance, the solution is approaching the proper degree of concentration, which may be easily ascertained by taking out a small portion of the liquid and placing it in a vessel to crystallize. &c.

When it is judged proper to stop the operation the fire is to be decreased, and the solution left to repose, till the common salt ceases to fall, or about five hours, during which time the solution ought to be kept steadily at the temperature of about 88 Centigrade thermometer or 190 of Farenhiet when it may be drawn off from the surface into crystallizing pans, taking every care to leave undisturbed, the salt or sediment at the bottom. It will require three days to complete the crystallization in winter, and longer in summer, and during hot weather fewer crystals will be obtained.

The mother water is then to be removed from the pans, and they are to be put up to drain, two and two, inclining towards each other in a channel.

In the manufactories of the Administration the crystallization is determined, by a much more easy and expeditious operation, the water is run off, into a long and large reservoir, lined with sheet lead or copper, the interior dimensions of which is about 12 feet

long, by 7 feet broad at the surface, the bottom is formed with a double slope of four inches towards the centre, one from the sides, the other longitudinally, so that the depth at one end is 16 inches and at the other end 20 inches.

The water is kept constantly in motion by means of wooden rakes to assist in cooling it, and the crystals as they form are raked to one end of the reservoir heaping them up to drain, and removing the most elevated parts, as they whiten perceptibly, to be carried to troughs or baskets and left to drain. In thus removing successively the small crystals as they form, the agitation, of the water with rakes must be continued incessantly to prevent the Saltpetre from forming in large cakes.—When the water has fallen in temperature to within 4 degrees of the place, or in about six hours all the Saltpetre will have been obtained, and the water will remain collected in the centre and towards one end of the reservoir from whence it is easily removed.

On the treatment of the water of crystallization.

This water will be left fully saturated with nitre and common salt, with a portion of earthy nitrates which may not be decomposed and ought to be again treated with a small proportion of potass, or passed over ashes, and then evaporated—or this water may be mixed with other Saltpetre water, before the latter has been treated with potass. If it is evaporated separately, the water which again remains may be abandoned or sold.

In France the earthy substances removed from the bottom of the boiler, is washed to recover the nitre remaining in it, the skum is boiled up in good water for the same purpose, and the refuse salt, *which* also contains a considerable proportion of Saltpetre is treated as follows.

* A boiler is to be filled three parts full of water and brought to boil; pure common salt is then thrown in till the water is fully saturated, which will be known by some of the salt falling to the bottom, the excess is removed with a scoop. Have in readiness some baskets filled with the refuse salt, one of these baskets, is to be immerged in the *boiling solution*, which cannot dissolve any more common salt, and can only act upon the nitre contained in it, in a short time, this basket may be withdrawn, and another put in, and so on till the water in the boiler is fully saturated with nitrate of potass, when it may be drawn off to crystallize. The baskets are put into the boiler by means of ropes, and a pulley fixed to a Crane.

* I have made trial of this system of treating the refuse salt, and I find that it will amply re-pay the cost, by the quantity of Saltpetre recovered.

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VII.—*Assay of Saltpetre according to the principle established by M. M. Botté et Riffault in France.*

This process consists in using a dissoluent of salts of earthy bases and of muriate of Soda which at the same time will not act upon the nitrate of potasse, and in leaving it undisturbed would shew the exact quantity of pure nitre contained in any given quantity of grough Saltpetre; this dissoluent is water fully saturated with pure nitre; if care is taken to obtain the saturated solution at the time of using it, in a fully saturated state.

The following is the method to be pursued.

Method of preparing the saturated solution.

Take about two or three pounds of pure nitre pounded and sifted, and throw it by degrees into a copper vessel tinned inside about 12 inches deep, and 5 inches diameter pouring in at the same time, good water heated to 126 degrees of Fahrenhiet, to be well stirred, and left for three or four hours or during the night, there ought always to be a portion of pure nitre not dissolved at the bottom, and the solution ought *never to be used* without stirring it well up from the bottom, and allowing it only one minute to settle, each time of using it.*

The Saltpetre received is to be collected in a heap, and well mixed, and a quantity taken from different parts of the mass, from which a sample; or any number of samples of 100 drams avoirdupois each is to be taken, the saltpetre taken for assay must be well bruised in a mortar.

One of these samples of 100 drams is to be placed in a glass vessel (a common finger glass or cooler is well adapted for this operation) and half a pint of the saturated solution poured upon it, and constantly stirred with a glass rod for 15 minutes, then allow it to settle for an instant, and pour off the surface water into a paper filter placed in a funnel over any vessel, this paper filter is necessary in order to retain any nitrate of potasse which may escape by carelessness in pouring off the surface water.

The Saltpetre in the glass vessel is then to be washed a second time with a quarter of a pint of the saturated solution, and stirred with a glass rod constantly for 15 minutes, allowed to settle and

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* In France where this mode of assay is pursued, an instrument called an Aréometre, with a thermometer are used to ascertain, that the solution is fully saturated up to the temperature of the place before using it, but the assay may be conducted with great accuracy without these instruments if the rules here laid down are strictly observed.

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the surface water poured off as before, draining off the water to the utmost, with care and attention, in pressing the nitre remaining in the vessel with a tea spoon.

The nitre remaining in the glass vessel is then to be spread upon a treble fold of filtering paper placed upon a box containing chalk or ashes or any absorbent matter, carefully removing every particle of nitre from the glass vessel; the box is to be placed in a dry place for 24 hours, the time necessary for the paper &c. to imbibe great part of the moisture—the nitre must then be carefully removed from the paper with a spoon and a knife or spatula and placed in the same glass vessel in which it was washed to be placed on a bed of sand over a gentle fire, and the salt constantly stirred with a glass rod, till the salt no longer adheres to the rod or to the vessel, when it will have fallen to a fine dry powder.

It only remains to ascertain the exact loss in quantity by weighing the nitre recovered, and to the number of drams found wanting, add one per cent for insoluble matter, such as sand or earth, and the amount will be the quantity of impurity contained in the sample of 100 drams, and of course in the whole mass of grough saltpetre received of which it was a part.

Should the result of the assay shew a loss of weight of 60 per cent. it will be necessary to wash the sample a third time with half a pint of the saturated solution, which would be more than sufficient to dissolve the whole that remains of the sample should it prove to be altogether nothing but common salt.

Thus if 100 drams of saltpetre is taken for assay the following form may be observed.

	Drams.
Taken for assay, saltpetre.................	100
Recovered after washing and drying........	79
Impurities..........	21
* Add one per cent. for insoluble matter such as gravel, sand, &c..	1
Total impurity.......	22

Quality of the sample 78 per cent. purity.

* The quantity of insoluble matter remaining in the sample, after the assay has been completed will seldom exceed one per cent, but if necessary it can be ascertained by dissolving what remains of the sample in boiling water and passing the solution through filtering paper, the insoluble matter will remain upon the paper, and can easily be collected, dried and weighed.

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VIII.—*At a General Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatic Society, held at the College on Thursday the 30th January* 1834.

Present.

The Honorable Sir R. PALMER, *President in the Chair.*

The Hon. W. OLIVER, ESQ.
Revd. Mr. SPRING,
Captain ROWLANDSON.
Æ. R. McDONELL, ESQ.
W. LAVIE, ESQ.
R. COLE, ESQ.
Lieut. Col. NAPIER,
Dr. BENZA,
Major HODGES,
J. A. R. STEVENSON, ESQ. and
J. C. MORRIS, ESQ. *Secretary.*

The Meeting having been opened by the Honorable the President, the Secretary laid before them a statement of the Funds of the Society in both its branches.

The meeting then proceeded to elect new members for the Committee of Management, and for the Committee of Papers, of the Asiatic Department for the ensuing year.

On the proposition of the Honorable the President, seconded by the Honorable Mr. Oliver, the following gentlemen, were unanimously elected members for the Committee of Management.

Lieut. Col. Garrard,
J. Annesley, Esq.
Revd. Mr. Spring,

Proposed by the Honorable the President, and seconded by Lieut. Col. Napier, that the following gentlemen be requested to become members of the Committee of Papers.

Dr. Benza,
J. G. Malcolmson, Esq.
H. S. Fleming, Esq. M. D.
R. Cole, Esq.

On the proposition of the Secretary, the thanks of the meeting were unanimously voted to Dr. Benza, and Lieut. Col. Cullen, for their valuable services in classing, arranging, and naming the large collection of mineral and geological specimens, in the Society's museum.

The following donations having been made to the Society, since the last annual general meeting, the thanks of the Society were unanimously voted to the donors.

Notitia Linguæ Sinicæ............. Lieut. Newbold,

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A Chinese classical work commonly called the four books............	Lieut. Newbold
The Anglo Chinese Kalendar for 1833	Do.
Report of the Malacca Mission station and Anglo Chinese College......	Do.
Frith's Questions and Answers on the duties of Artillery..............	The Author.
Braddock's Memoir on Gunpowder..	The Author.
A case of meniral and geological specimens, collected in the Palnaud District Guntoor Collectorate....	Capt. D. Montgomerie,
A Neptune's Cup from the straights of Malacca......................	Do.
The 18th Vol, of the Asiatic Researches.	The A. Society of Bengal,

The following gentlemen have been elected members since the last general meeting,

T. M. Lane, Esq.
Captain C. B. Lindsay,
W. E. Underwood, Esq.
W. Elliot, Esq.
W. H. Richards, Esq.
Colonel Pearse,
Lt. Col. Frith,
Lieut. Col. Monteith,
R. Cole, Esq.
J. Ouchterlony, Esq.
F. Hall, Esq.
A. Rowlandson, Esq.
Captain Boileau,
Lieut: Garnier,
Major Hodges,
W. Lavie, Esq.
J. G. S. Bruere, Esq.
J. G. Malcolmson, Esq.

Lieut. A. Burnes, Honorary Member.

The following gentlemen have died or retired since the last general meeting.

Lieut. Col. Coombs,
S. M. Stephenson, Esq.
C. M. Whish, Esq.
J. Irving, Esq. M. D.
Captain E. Lake,
T. Gahagan, Esq.
W. T Newlyn Esq.
S. Crawford, Esq retired.
Capt. D. Montgomerie, retired.

Rear Admiral Sir H. Black-wood, K. C. B.

Read letter from the Secretary to the Geological Society of France, forwarding the laws of their association and requesting to know if the Society would agree to enter into correspondence with them and accept their Transactions in exchange for those of the Society.

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Resolved that the proposition of the Geological Society of France, be acceded to and that copies of the Society's Transactions and of the Journal of Literature and Science published under the auspices of the Society, be presented to the Geological Society of France, and to the other Foreign Societies, who have forwarded their Transactions to the Society.

The thanks of the Meeting were voted to the Honorable the chairman, for his able conduct in the chair.

IX.—At a Meeting of the Madras Literary Society and Auxiliary of the Royal Asiatie Society, held at the Society's Rooms, at the College, on Thursday evening the 27th February, 1834.

Present.

The Honorable Sir Ralph Palmer, *President in the Chair.*

Revd. Mr. Spring,	Lieut. Col. Monteith,
Lieut. Col. Napier,	Lieut. Col. Garrard,
J. Ouchterlony, Esq.	J. Annesley, Esq.
J. G. Malcolmson, Esq.	C. V. Lutchmiah, and
R. Cole, Esq.	J. C. Morris, Esq. *Secretary.*

The Secretary lays before the meeting a Rustic Model of a Machine for raising water, a coloured sketch shewing the manner in which the principles of the Machine may with facility be reduced to practice, also a guide sketch, with references to the several parts of the mechanism, and an interesting paper on the different methods of raising water in India, presented to the Society by a scientific officer residing at the Presidency. The paper in question having been selected for the evening's perusal was accordingly read by the Secretary, and highly approved of by the meeting, and it is

Resolved that the same be laid a side for publication in the next No. of the Madras Journal of Literature and Science, and that the thanks of the Society be communicated to the donor.

The following books have been presented to the Society since the last annual general meeting.

Asiatic Researches, 17th Vol. Asiatic Society of Bengal.
Prinsep's Memoirs of Ameer Khan ....J. Prinsep Esq.
Travels of Macarius 3d and 4th parts......Royal Asiatic Society.

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Transactions of the Royal Asiatic Society Vol. 3d part 2d........................Royal Asiatic Society.
Shea's Translation of Mirkhond's History of the Early Kings of Persia....................Do.
Tohfut-ul-Mujahideen, by Lieut. M. J. Rowlandson...... ....Do.
Atkinson's Customs and Manners of the Women of Persia............ ....Do.
Appendix aux Rudimens de la Langue Hindoostani, par M. De Tassy...................The Author.

Resolved that the thanks of the Society be communicated to the several donors.

The thanks of the meeting were voted to the Honorable the Chairman for his able conduct in the chair.

We have much pleasure in giving insertion to the following letter, and list of Books, not only to record the munificent donation to the Madras Medical Society, but also to give notice of the liberality of that Society in extending the benefits thereof to the Members of the Madras Literary Society. Ed.

To

The Editor of the Madras Journal of Literature and Science.

Sir,

I am directed by the committee of management of the Madras Medical Society to transmit to you the accompanying list of Books, which were presented to the Library of that Institution by Dr. Conwell, with their request, that you will be kind enough to publish it in your next journal; and as some of the scientific works are scarce, to notify, that the perusal of any of them may be obtained by the Members of the Madras Literary Society, on the application of their Secretary.

I have the honor to be
Sir,
Your very obedient Servant
W. R. SMYTH,
Secretary Medical Society.

Madras,
3d March, 1834.

LIST OF BOOKS

Presented to the Madras Medical Society by Dr. Conwell.

Abernethy's Surgical works, 8vo. bd. 2 Vols. New Edition 1822.
Adams on Morbid poisons, with coloured engravings, bound, 1 2d Edition 1807.
Annesley's Diseases of India, with co-

loured plates, folio ½ bd. 2. 1823.
Arnold on Insanity, 8vo. bd. 2. 2d Edition 1806.
Ayre on Marasurus, bd. in rough calf 1. 1818.
Baume's Traité de la Premiere dentition, bd. 1. 1806.
Bayle Recherches sur la Phthisie pulmonaire 1. 1810.
Begin Principes de Physiologie Pathologique, bd. 1. 1824.
Berard doctrine des rapports du physique et du moral ½ bd. 1. 1823.
Berzelius L'emploi du Chalumeau, with plates 1. 1821.
Bichat Recherches Physiologiques Sur la vie et la mort, augmentés de notes par F. Magendie ½ bd. 1. 1822.
Boisseau Pyretologie Physiologique, bd. 1 vol. 1823.
Bowen on Cataract bd. in calf 1. 1824.
Broussai's Ecamen des doctrines Medicales, et des systemes de nosologie vols. 2. 1821.
——— Histoire des Phlegmasies, ou inflammations chroniques, 3 vol. 3d Edition 1822.
Buffon's histoire naturele des oiseaux bound in parchment, royal folio with beautifully coloured plates, a rare and magnificent work 11 vol. 1784.
——— ——— naturele Generale, nouvelle Edition with plates ½ bound in 127 vols. (vol. 36th wanting) 126.
Bedingfield's Medical Practice vol. 1 1816.
Calepini diction: octo-linguæ 2 vol. A. D. 1647.
Capuron nova Medicinæ elementa, ½ bd. 1. 1813
Ceylon Calendar for 1820 bd. 1. 1820.
Chevreul Recherches chemiques sur les corps gras 1. 1823.
Clarke on Children, and Pemberton on the Abdominal viscera ½ bd. 1. 1815.
Conwell's Medical Researches 1 1829.
Cliet observations medical Chirurgicales, bd. 1. 1823.
Cadogan on the Gout ½ bd. 1. vol. 5th Edition 1771.
Coleman on Respiration, bd. 1. 1802.
Cooke on Palsy—Abernethy on Hunter's theory of life, and Pharmacopia, ½ bound 1. 1821.
Corvisart maladies du cœur, bound 1. 1818.
Crowther on the Joints bound in rough calf 1. vol. 1808.
Cullen's Materia Medica ½ bd. 2. 1789.
Couper's Speculations ½ bound 1. 2d Edition 1797.
Curry on Death, vol. 1. 1815.
Cuvier Recherches sur les ossemens Fossiles, folio with plates, 5 vols. ½ bound 6 1821.
——— Brogniart et Lamarck descript. Geologique des environs de Paris, bound, fine plates, quarto vol. 1 and 8.
——— Anatomie comparé, with plates, bound vols. 5 A. N. 8.
Delabarre-partie mecanique des Denteste with engravings, bd. 1. 1820.
——— seconde dentition, with engravings, vol. 1. 1819.
Demours (A. P.) Traité des maladies des yeaux, 3 vols. 8vo. 4th vol. to 9. with coloured plates 4 vols. 1818.
Desault œuvres chirurgiales, bd. 3. 1813.
Desfontaines Flora atlantica, with fine plates ½ bound 2 vols. Anno sexto reipublicæ gallicæ.
De theis Glossaire de botanique bd. 1. vol. 1810.
Dublin Pharmacopia ½ bd. 1. 1828.
Dutrochet structure des animaux, and moulin de l'apoplexie 1. 1828.
Dictionaire Abridge des Sciences medicales, bound 10 vols. 1821.
Edinburgh Medical and Surgical Journal ½ bd. 16 vol. 2d Edition 1805.
——— ——— practice ½ bd. 1. 1816.
Falret-suicide Hypocondrie 1. 1822.
Fourcry's Chemistry bd. 11. 1804.
Guthrie on the Operative Surgery of the Eye 1. 1823.
Gasparin des maladies contagienses, bd. 1 vol. 1831.
Georget Physiologie du systeme nerveaux, bd. 2 vol. 1821.
Geoffroy St. Hillaire Philosophie Anatomique des organes respirationes 1 vol. 1818.
Goodland's Absorbent System bd. 1. 1814.
Gregory's Conspectus 2 vol. 1790.
Griffiths on Hepatitis, bound in rough calf 3. 1816.
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Hall on the Digestive organs, bd. in rough calf 1 vol. 1820.
Hall's Essay on Diaguons. Philip on Indigestion. and Willis on Mental Derangement ½ bound in 1. 1822.
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calf 1 vol. 2d Edition 1824.
Hastings on Inflammation of the Lungs, and Engmy and Scudamore on the blood, ½ bound in one 1820.
Hany Troité de Mineralogie, ½ bound 5 vol. 1822.
——— ——— with atlas 1. 1823.
Heberdene's Commentaries bound 1. 2d Edition 1803.
Hippocrates Opera Omnia a Foessii folio bound 2d Edition 1657 Genera.
Histoire des Animaux sans Vertebres par Lamarck, bd. 7 vol. 1815.
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Hamilton on Purgatives, ½ bd. 1. 6th Edition 1818.
Haller's Physiology, bd. 2. 1754.
Howslip on the Bowels, ½ bd. 1. 1820.
Johnson's Dictionary of the English Language, 5th Edition bound with gilt edges, 2 vol. folio.
Johnson on the Liver, bound in rough calf 1 vol. 3d Edition 1820.
Jones on Hœmorrhage with plates, and Ellis on Atmospheric air, ½ bd. 1. 1810.
Jameson on the changes of the human body, ½ bd. 1. 1811.
Jordan Code Pharmaceutique ½ bd. 1. 1821.
Journal of Science and the Arts, edn. at the Institution Brillan (16 Vols. bound in rough calf and 6 Vols. ½ bound) 22. 1816.
James on Inflammation, bound in rough calf 1. 1821.
Lanthois Theorie nouvelle de la Phthisie pulmon. 1 vol. 2d Edition 1818.
Le Normand l' art du distillateur ½ bd. 2 vol. 1817.
London Medical Repository, 4. 1814.
Maladies Contagiueses des betes a Laine, 1. 1821.
Medical and Physical Journal vols. 9 from March 1799 till June 1803.
Medico Chirurgical Transactions 11. 3d Edition 1815.
M'Lean on Pestilential Diseases, bd. in rough calf 2. 1817.
Memoir sur les chinois, 4to. bd. 15. 1776.
Moreau de Jonnes Histoire Physique des Antelles Francaises 1. 1822.
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Parry on the Arteries, bound in rough calf 1. 1819.
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Persoon traité des champignous conestibles, with coloured plates 1. 1819.
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Picture on the present state of Physicians ½ bound 1817.
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Prichard on Diseases of the Nervous system, ½ bound 1 1822.
Repertory of arts, 1st series 16 vols. and Index, 2d series, 35 vols. and Index, (7, 6 and 28 vol. wanting) with plates ½ bound 30.
Richer and Nouveaux Elements de Physiologie, ½ bound 2 1820.
——— Nosographic de therepeutiques chirurgicales 4 Cinquiemie Edition 1821.
Roland's Inductions Physiologiques, and Huzard nosographic veternairie (in 1 vol.) Printed in 1820 and 1822.
Raymond traité des maladies quii est dangereaux de Guerii 1 Nouvelle Edition 1816.
Orfila lecons de medecine Legale 1. 1821.
——————————————2. 1823.
——— ———Toxicologie Generale 2. 1818.
Scudamore on the Blood, and Searle on Cholera 1. 1824.
Scarpa on the Eye with plates, bound 1. 1806.
——— ——— Anatomicæ disquisitiones de auditu et olfactu, with plates, folio ½ 1. Milan, 1794.
Stokes on the Stethoscope, ½ bound 1. 1825.
Spallanzani on the Blood, bound 1. 1801.
Syder's Surgical Lectures, bound in rough calf 1. 1821.
Saunders on the Liver, bound in rough calf 1. 1809.
Stewarts Philosophy of the human mind ½ bound. 26th Edition 1818.
Sabtier medicine operative ½ bound 3 Tome Premier 1822.
Thomas on the Digestive organs, bd. in rough calf 1820.
Travers on Diseases of the Eye with coloured engravings ½ bound 1 1820.

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Trotter's Views and Waddington on Man 1. 1807.
Thillaye bandages et apparatus with plates ½ bd. 1 Troisieme Edition 1815.
Thenard traits de Chemie ½ bd. 1 vol. Tome Premier 1821.
Theses ½ bound 1. 1802.
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Ware's History of the writers of Ireland folio bd. 1, 1764.
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Wakefield's Ireland, quarto, neatly ½ bd. 2. 1812.
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——— ——— Diabetes 1, 1808.
Wardrope on the Eye with coloured engravings ½ bd. 1. 1818.
Wade's select evidence 1. 1791.
Wallace on Chlorine 1. 1822.
Wright on Deafness 1. 1817.
Wilson on Febrile Diseases 4 Vol. 2d Edition 1808.

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X.—METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughto[n]						
	Sun Rise.	10 A. M.	App. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	Aft. Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,130	-- —	30,148	30,130	30,128	30,140		75,0	--—	81,8	81,7	79,9	79,6	
2	,130	30,150	,134	,124	,110	,110	30,110	74,5	79,8	81,4	82,0	79,0	78,3	78,[illegible]
3	,108	,114	,104	,100	,042	,054	,062	72,0	79,9	81,8	81,9	79,3	79,0	78,[illegible]
4	,042	,088	——	,044	,03[illegible]	,050	,056	74,0	80,0	--—	83,0	80,0	79,0	79,[illegible]
5	,044	,066	,052	,038	,04[illegible]	,050	,054	78,0	82,0	83,8	84,0	81,1	80,6	79,[illegible]
6	,042	,076	,060	,036	,034	,046	,056	79,0	82,7	84,0	84,9	82,8	81,2	81,[illegible]
7	,022	,132	,120	,038	,034	,050	,070	77,5	83,0	85,0	83,5	81,5	80,9	81,[illegible]
8	,044	,148	,134	,100	,043	,064	,096	79,0	83,0	84,0	84,1	81,0	80,4	80,[illegible]
9	,076	,140	,116	,046	,050	,068	,082	74,0	81,0	82,8	82,7	80,7	79,9	79,1
10	,064	,114	,090	,050	,058	,072	,074	73,6	81,0	82,2	82,8	80,0	76,8	74,8
11	,048	,082	,052	,026	,034	,050	,050	72,2	79,7	81,6	82,3	79,5	78,3	74,0
12	,038	,096	,076	,032	,028	,037	,036	73,0	80,7	82,8	82,7	80,3	77,2	78,6
13	,018	,050	,026	,010	,008	,022	,028	73,0	80,0	80,1	76,9	76,0	77,0	77,9
14	,016	,066	,036	,016	,016	,038	,042	72,3	80,6	81,7	81,0	80,0	79,1	79,0
15	,022	——	,032	,006	,010	,034		78,0	--—	82,8	82,0	80,0	80,0	
16	,022	,062	,040	,010	,020	,040		78,7	81,3	80,0	81,9	80,5	78,8	
17	,028	,072	,040	,016	,012	,044		76,3	77,2	80,0	82,4	79,9	79,5	
18	,042	,086	,056	,034	,028	,052	,064	74,9	80,1	82,4	83,0	81,3	80,0	80,[illegible]
19	,034	,092	,068	,034	,086	,056		76,3	82,0	83,0	83,4	81,0	80,1	
20	,036	,086	,068	,036	,022	,044	,044	80,0	82,0	83,4	83,1	81,5	80,7	80,[illegible]
21	,036	,092	,066	,028	,030	,058	,084	77,8	81,4	82,4	82,7	81,3	80,8	80,[illegible]
22	,050	——	,110	,060	,068	,122	,150	79,2	— -	84,0	84,1	81,0	80,5	80,[illegible]
23	,076	,184	,166	,128	,112	,142	,150	76,9	82,0	82,4	83,0	80,0	79,5	79,[illegible]
24	,122	,170	,150	,104	,036	,074	,072	75,9	81,7	82,2	83,3	80,0	78,3	76,[illegible]
25	,046	,100	,078	,040	,020	,046	,054	73,5	79,7	82,[illegible]	83,7	80,8	78,9	76,[illegible]
26	,040	,102	,074	,054	,020	,096	,102	76,7	81,0	82,8	83,8	82,0	79,5	77,[illegible]
27	,076	,172	,140	,124	,117	,126	,135	72,4	81,3	82,0	82,0	80,6	79,[illegible]	79,[illegible]
28	,114	,156	,132	,112	,038	,110	,120	77,9	81,[illegible]	81,5	82,0	79,7	78,[illegible]	78,[illegible]
29	,068	——	,136	,104	,108	,126	,138	77,0	--—	82,0	81,8	79,5	78,7	78,[illegible]
30	,112	,178	,142	,114	,106	,114	,128	74,9	80,[illegible]	80,3	82,0	78,1	78,[illegible]	7[illegible]
31	,116	,164	,146	,120	,120	,138		72,0	79,[illegible]	80,5	80,4	77,4	77,0	
Mean	30,060	30,113	30,093	30,059	30,052	30,073	30,082	78,7	80,9	82,2	82,6	80,2	79,2	7[illegible]

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OBSERVATORY; FOR THE MONTH OF DECEMBER 1833.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	App. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		
1	3,3		7,9	8,7	8,2	7,7					N. NE.	Cloudy.
2	4,5	6,4	9,3	7,4	7,3	7,4	7,0				Do.	Day clear, cl. at
3	3,8	7,5	9,0	8,1	7,9	5,9	5,5				N. NW. NE. E.	[night.
4	2,2	4,5		7,1	4,7	3,4	3,3	,007		2,003	N. NE. E.	
5	2,9	4,7	5,6	7,0	5,1	4,4	2,8				NW. E. NE.	
6	3,8	5,6	6,0	7,2	5,8	4,7	4,4				NW. NE. E. SE.	
7	2,7	5,8	6,8	6,7	5,7	5,5	5,0				N. NE. E.	Generally clear.
8	4,3	6,3	6,9	7,3	5,8	5,6	6,2				SW. NW. NE.	
9	2,7	7,1	8,8	9,3	7,9	7,9	7,3				N W. N E. E.	
10	3,7	9,1	10,2	10,0	8,2	5,5	3,8				N. SE. NE.	
11	3,5	8,0	11,4	12,4	8,8	8,6	5,3			1,750	SW. NW. E. NE.	
12	5,5	9,0	10,7	9,7	8,5	6,0	6,8				N. SE. E. NE.	Cloudy at night.
13	3,0	6,6	7,2	3,4	3,9	5,1	3,3		,201		W. N. NE. SE.	Cloudy through-
14	1,8	6,4	6,7	5,6	5,8	5,0	5,0				NW. E. NE.	Clear. [out.
15	4,2		6,9	6,7	4,5	3,8					Do.	Cloudy, heavy rain [at night.
16	3,7	4,6	5,1	6,0	4,4	3,9		,865			NE. E. SE.	Do.
17	3,3	3,0	4,8	4,7	3,9	3,8		1,595	,069		[illegible]E. E.	Do.
18	3,2	4,4	5,5	6,0	5,5	4,7	4,5	,528		1,501	NW. NE.	Clear throughout.
19	2,3	5,5	6,3	7,0	5,7	4,7					SW. E. NE.	Mostly cloudy.
20	4,7	4,8	5,8	5,9	5,2	4,2	5,2				E. NE. SE.	Do.
21	2,6	4,7	5,4	5,8	4,6	4,3	4,2				N. NE. E.	Do.
22	4,2		7,7	7,1	5,1	5,5	5,3				NW. E. NE.	Do. clear night.
23	4,1	7,0	7,3	8,8	7,0	6,8	5,3				N. NE. E.	Scattered clouds.
24	4,0	7,6	7,7		5,3	5,3	4,0				NW. E. NE.	Clear throughout.
25	3,5	5,9	7,7	5,7	4,8	5,8	3,7			2,987	NW. N. NE. E.	Do.
26	3,9	6,0	8,1	9,6	5,0	5,9	4,6				W. S. SW. SE. NE	Do.
27	2,0	8,0	9,0	8,2	8,1	7,3	7,5				NW. NE.	Scattered clouds.
28	7,5	9,0	8,6	9,2	7,8	7,8	7,3				E. NE.	Do.
29	5,7		9,3	10,0	8,3	8,4	8,0				N. NE.	Clear throughout.
30	6,9	11,7	10,6	12,3	9,2		10,4				N. E. NE.	Do.
31	5,5	10,6	11,5	11,6	10,9	9,7					NW. NE. E. N.	Mostly cloudy.
Mean	3,8	6,7	7,8	7,8	6,4	5,8	5,4					

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METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No 3. by Gilbert.							Standard Therm. by Troughton						
	Sun Rise.	10 A. M.	Dep. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	Sun Rise.	10 A. M.	Aft. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,116	——	——		——	——	——	71,0	——	——	——	——	——	——
2	,102	30,150	30,120	30,100	30,110	30,114	30,124	72,0	80,3	82,5	82,2	79,0	78,2	77,8
3	,096	,132	,110	,095	,090	,096	,098	72,0	77,0	80,[illegible]	80,0	76,9	74,5	75,0
4	,028	,094	,060	,020	,020	,037	,052	68,2	78,2	81,0	81,0	78,0	76,9	75,0
5	,018	——	,046	,018	,022	,042	,072	72,5	--	80,9	81,7	79,8	78,0	77,9
6	,034	,118	,080	,048	,044	,084	,100	72,0	80,7	81,8	82,3	79,2	78,9	79,[illegible]
7	,060	,144	,120	,064	,062	,090	,108	74,3	80,0	80,6	80,0	78,8	77,2	78,[illegible]
8	,050	,114	,086	,046	,034	——	,076	74,2	80,8	81,7	82,0	79,3		78,[illegible]
9	,040	,102	,076	,038	,040	,048	——	74,2	78,0	80,3	79,0	74,6	72,8	
10	,050	,150	,122	,060	,042	,062	,082	72,5	77,7	79,3	79,0	76,0	73,7	70,0
11	,038	,122	,100	,051	,040		,094	68,0	77,9	79,0	79,7	76,0		73,0
12	,052	,132	,100	——	,030	,050	,102	69,6	76,8	78,5	——	76,3	74,8	72,9
13	,056	,142	——	——	,046	,070	,068	71,0	78,0	——	——	77,5	77,2	77,1
14	,050	,126	,070	,056	,064	,100	——	76,8	80,6	81,7	82,0	79,5	79,0	——
15	,080	,200	,186	,162	,050	,168	,158	72,3	80,1	81,3	81,0	78,1	77,8	77,0
16	,150	,220	,202	,174	,160	,174	,184	72,0	78,6	80,5	79,5	77,3	76,3	75,8
17	,152	,184	,166	,152	,120	,132	,130	71,2	77,0	80,0	80,8	77,1	73,2	71,8
18	,108	,160	,142	,114	,112	,126	,128	69,0	78,8	80,4	80,9	78,3	74,1	72,0
19	,128	——	,142	,116	,124	,134	,148	71,1	——	80,5	81,0	78,2	74,9	73,7
20	,118	,156	,134	,114	,118	,028	,132	71,9	a7,5	80,6	81,8	79,0	77,0	75,0
21	,124	,186	,138	,076	,070	,104	,118	69,6	78,0	80,0	81,4	78,0	76,8	73,3
22	,080	,162	,130	,074	,076	,110	,130	69,9	77,8	80,0	80,5	78,0	76,7	75,5
23	,086	,152	,110	,056	,030	,058	,088	71,0	77,5	79,0	79,9	77,7	74,8	72,5
24	,062	,136	,100	,056	,056	,078	,082	68,5	77,2	80,0	81,0	78,8	76,6	71,0
25	,056	,138	,114	,066	,064	,086	,096	70,0	78,0	79,8	80,7	79,2	77,9	76,1
26	,100	——	,132	,090	,078	,102	,112	71,1	——	81,0	81,5	79,5	78,3	73,1
27	,090	,178	,134	,092	,092	,130	,140	72,2	78,4	80,7	81,0	78,9	76,7	73,8
28	,120	,178	,146	,108	,118	,146	,170	73,8	78,2	81,0	82,0	79,8	78,1	75,3
29	,118	,184	,150	,108	,090	,110	,108	74,3	79,4	82,6	82,0	79,1	78,9	78,3
30	,098	,174	,136	,096	,094	,120	,138	72,8	80,0	82,9	83,4	80,3	79,1	78,8
31	,102	,206	,154	,112	,110	,128	,144	74,2	80,7	82,0	82,0	80,0	78,3	74,[illegible]
Mean	30,083	30,158	30,121	30,084	30,074	30,097	30,115	71,7	78,6	80,7	81,0	78,3	76,6	75,[illegible]

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OBSERVATORY; FOR THE MONTH OF JANUARY 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise	10 A. M.	Aft. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		Flying clouds.
1	4,7	—	—	—	—	—	—			2,201	NW. NE. E.	Mostly clear.
2	4,0	13,5	16,6	14,9	12,0	11,7	10,0				Do.	Hazy but clear.
3	5,7	7,6	13,7	12,0	10,5	9,2	8,9				W. NW. NE.	Mostly clear.
4	5,1	9,4	14,5	11,6	7,3	5,6	3,7				NW. N. NE.	Do
5	2,6		6,4	9,2	8,8	6,1	6,1				N. NE. E.	Do
6	3,0	7,5	9,2	7,5	7,0	7,0	6,2				NW. E. NE. N.	Fl. clouds & driz. [rain.
7	3,8	5,4	7,2	5,7	7,5	4,4	4,8	,003	,052		Do.	Generally clear.
8	3,3	7,9	8,7	8,9	8,0		8,3			1,840	NW. NE. E.	Mostly cloudy.
9	5,0	7,7	8,4	3,9	4,4	3,0					NW. E. N.	Generally
10	5,6	10,0	12,5	12,9	12,2	10,4	6,2	,007			NW. NE. E.	clear.
11	5,7	10,2	12,7	13,5	10,3		7,4				NW. N. NE. E.	
12	5,4	9,5	11,7		7,8	8,8	6,7				N. NE. E.	Clear flying
13	5,1	8,0	—		8,5	6,9	7,1				NW. N. NE.	clouds.
14	7,4	9,6	10,0	10,7	9,5	9,0					NE. E. NE.	
15	3,4	9,8	9,5	9,2	9,0	8,5	8,0			2,257	NE. E. N.	
16	4,0	8,9	10,5	10,3	9,8	10,3	9,9				N. E. NE.	
17	6,4	10,2	12,2	13,6	10,8	7,2	5,8				S. N. NE. E.	
18	6,5	9,6	10,5	11,2	9,8	7,3	6,0				N. E. NE. S.	
19	5,8		13,5	13,2	11,5	8,4	7,8				NW. NE. E	Clear through-
20	7,4	9,8	13,9	15,8	11,0	9,0	7,7				S. SW. SE. E.	[out.
21	5,9	9,0	12,3	15,5	11,0	10,5	7,3				NW. SW. E. SE.	
22	5,1	11,0	11,2	11,8	10,0	9,7	8,3			2,081	NW. E. SE.	
23	5,8	9,7	11,2	11,2	9,7	7,4	5,7				SW. S. SE.	
24	3,6	9,2	11,0	10,7	8,8		5,5				W. SW. SE. E.	Mostly clear.
25	6,0	8,0	8,7	8,6	8,9	7,9	6,7				W. NE. SE. E.	Do.
26	4,9		9,5	10,3	10,7	9,8	5,1				W. E. NE. SE.	
27	5,3	7,4	9,1	8,9	7,1	6,4	4,8				W. S. NE.	
28	6,3	6,4	7,6	10,6	7,8	6,1	4,7				SW. SE. S. E.	Clear through-
29	5,7	7,4	9,2	8,9	7,1	7,0	6,3			1,930	NW. E. NE.	[out.
30	5,3	7,6	14,6	14,4	8,3	7,3	6,7				W. S. SE. E.	
31	5,7	10,4	11,2	11,1	10,2	9,5	7,0				W. SE. E.	Flying clouds.
Mean	5,1	8,9	10,9	10,9	9,2	7,6	6,7					

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METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughton						
	Sun Rise.	10 A. M.	App. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	App. Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,140	30,210	30,174	30,108	30,108	30,114	30,128	72,3	80,1	81,8	81,8	79,8	77,4	74,1
2	,088	——	,134	,092	,100	,126	,130	73,8	——	81,4	81,8	78,8	77,2	75,5
3	,104	,200	,168	,100	,092	,132	——	75,0	80,4	81,6	81,0	79,5	79,0	——
4	,024	,208	,170	,122	,124	,174	,186	78,0	81,8	82,7	83,5	81,6	79,5	79,7
5	,140	,246	,220	,176	,136	,166	,180	73,8	81,0	82,0	82,2	80,1	79,1	77,0
6	,130	,214	,176	,122	,118	,144	,156	72,5	80,3	81,6	82,3	79,5	78,1	78,2
7	,116	,204	,200	,108	,080	,112	,128	72,1	79,5	81,4	81,9	79,8	78,9	79,0
8	,086	,150	,132	,024	,054	,100	,128	74,0	80,1	81,8	82,8	81,2	78,9	76,4
9	,072	——	,090	,050	,042	,088	,116	72,0	——	81,4	82,0	79,7	78,2	77,0
10	,092	,174	,100	,058	,040	,102	,106	69,0	80,0	81,3	81,8	79,7	78,0	77,2
11	,090	,152	,076	,052	,026	,058	,072	69,8	79,9	81,4	82,4	79,6	78,2	77,8
12	,050	,100	,042	,010	,990	,020	,036	71,8	79,2	81,8	82,0	80,0	78,8	78,0
13	,024	,086	,046	,000	,995	,020	,034	72,2	81,0	82,9	83,0	80,3	80,0	79,6
14	,024	,088	,012	,010	,990	,026	,050	76,3	82,0	84,5	84,5	82,7	81,0	81,0
15	,018	,068	,026	,002	,004	,026	,042	78,0	83,0	85,7	86,0	82,4	81,5	81,2
16	,050	——	,092	,040	,040	,086		79,0	——	84,0	84,4	82,0	81,9	——
17	,106	,182	,136	,080	,060	,136	,148	80,5	83,8	84,4	84,0	81,2	80,5	80,0
18	,072	,160	,104	,056	,014	,062	,064	71,5	81,2	82,1	82,8	79,5	76,5	73,0
19	,040	,112	,066	,008	,024	,038	,054	72,8	79,9	84,2	84,8	81,8	77,1	76,0
20	,024	,076	,046	,016	,018	,036	,050	74,5	81,0	86,4	86,3	82,0	79,0	77,0
21	,032	,104	,038	,036	,024	,044	,066	73,7	81,6	84,2	84,0	80,4	78,3	76,3
22	,050	,128	,104	,064	,044	,058	,080	74,0	82,0	86,0	85,0	82,0	79,9	78,2
23	,038	——	,064	,030	,004	,012	,030	74,5	——	84,7	86,3	82,0	80,0	78,0
24	,010	,066	,038	,014	,000	,026	,036	74 8	81,2	83,5	84,0	81,0	79,9	77,3
25	,032	,114	,076	,042	,028	,083	,084	73,3	82,0	83,0	83,8	81,2	80,3	80,0
26	,092	,164	,118	,060	,075	,116	,138	79,3	83,2	84,0	84,8	82,2	81,3	81,0
27	,094	,172	,116	,064	,044	,066	,172	77,3	83,9	85,1	86,2	82,9	81,9	81,8
28	,040	,096	,054	,016	,016	,036	,050	76,9	84,3	86,0	86,0	82,9	81,9	81,2
Mean	30,063	30,144	30,100	30,056	30,046	30,079	30,095	74,4	81,3	83,2	83,6	80,9	79,4	78,1

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OBSERVATORY; FOR THE MONTH OF *FERBUARY* 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	App. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.	W. E. & SE.	Mostly clear.
1	6,3	10,2	12,1	11,0	10,4	9,6	6,2				W. E. & NE.	Flying clouds.
2	7,1	----	11,3	10,8	8,8	7,3	6,8				NW. E. SE.	Do. Do.
3	6,0	9,8	10,6	9,8	9,8	8,8	----				E. NE & E.	Do. Do. [clear
4	9,2	11,0	10,8	12,1	12,4	10,5	8,7				NE. & E.	Cloudy; night
5	5,7	10,7	10,9	11,3	10,0	9,1	7,8			2,326	N. NE & E.	Do. Do.
6	4,0	8,7	10,1	10,0	7,6	6,8	7,0					
7	5,1	8,2	9,7	10,2	7,8	7,6	7,1				N. NE. SW.	
8	7,0	7,6	9,0	9,8	9,2	8,0	5,2				NW. SE & E.	Clear; flying clouds
9	4,4	----	9,5	11,0	10,1	8,4	8,0				E. NE.	} Generally clear.
10	3,5	10,0	9,8	10,8	9,7	8,2	6,8				E. NE. SE.	
11	4,2	10,7	10,6	11,2	9,6	8,4	8,0				NE. E. SE.	
12	5,8	9,9	11,8	11,1	10,0	9,5	9,0			2,000	NE. E. SW.	
13	4,4	9,0	9,7	11,3	8,3	7,8	6,7				NE. S. SE.	Flying clouds.
14	4,2	8,0	11,4	9,3	7,7	6,5	----				N. S. SW.	} Clear.
15	2,5	8,0	9,8	10,0	6,4	5,8	5,3				W. S. SE.	
16	5,0	----	8,3	8,5	8,0	7,6	----				W. SE. E.	Mostly cloudy.
17	7,5	9,9	9,7	9,8	9,2	8,2	7,5				E. NE. SE.	} Flying Clouds.
18	4,6	10,4	9,5	10,8	7,5	4,5	1,0				N. SE. E.	
19	0,8	7,9	12,2	11,8	8,6	4,1	3,0			2,326	NW. SW. S.	} Generally clear.
20	1,6	7,9	13,4	12,5	8,3	5,7	3,7				W. SE. S.	
21	0,1	8,1	10,6	10,2	6,9	4,7	3,0				W. S. SE.	Clear but hazy.
22	0,3	8,4	12,4	11,7	8,0	6,7	5,2				Do	} Clear.
23	1,2	----	11,4	13,1	8,2	6,5	5,0				WS. E. S.	
24	3,6	9,9	12,2	12,0	8,8	7,4	5,5				SW.S. SE.	Flying Clouds.
25	1,1	8,6	----	11,4	8,9	7,8	8,0				W. SE. E.	Do. Do.
26	6,8	10,2	10,0	10,8	7,9	7,2	6,7			2,562	S. SE. E.	Mostly clear.
27	3,3	9,5	9,4	10,6	7,0	6,1	6,1				SW. SE. S.	Do. Do.
28	1,2	8,3	10,0	8,8	5,9	4,6	3,6				SW. SE. S.	Do. Lightn.
Mean	4,2	9,2	10,6	10,8	8,6	7,3	6,0					

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The instruments used in the foregoing observations are placed upon a table 3 feet high in the western verandah of the Honourable Company's Observatary; from the Mean of five Barometrical measures lately made the floor of the verandah appears to be *about* 26 feet above the level of the sea (not 45 as was before erroneously supposed.) The barometrical indication are those read off from the instrument, without any reduction for cappiliary action or temperature; for the former, the correction answering to 0,20 inches diameter or +, 059 inches should be employed—The Madras Observatory is situated at about two miles from the sea in longitude 5 hours 21 minutes 9 seconds east of Greenwich and 13 degrees 4 minutes 9 seconds north latitude.

T. G. TAYLOR,
H. C. Astronomer.

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MADRAS JOURNAL

OF

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No. 4.—*July,* 1834.

Continued from page 159.

I.—*A Sketch of the History of the Ramoossies residing in the Sattarah Territory and in the Poona and Ahmednuggur districts—By Captain Alexander Mackintosh of the 27th Regt. M. N. I. Commanding Ahmednuggur Local Corps.*

Continuation of CHAP. III.

However strange all this inconsistency may appear, it is easily accounted for. Human nature is much the same every where. The Ramoossy robber having been apprehended, he naturally enough is anxious to escape the consequence of his trial for the crime of which he stands accused; many of these are bold, cunning, and clever, practised in their profession, and well acquainted with the ways of the world; while others of them, of course, are not so gifted, nor so experienced. An unsophisticated character while labouring under the agitation excited by the new and alarming situation in which he is placed, will frequently give a detailed and faithful account of all the proceedings connected with his delinquency. As much time generally, but necessarily, elapses before a prisoner is finally committed and brought to trial in this country, the prisoner ere long learns from some source that his associates in the late affair, who are in confinement, have resolutely denied all knowledge of the business; upon further consideration, the unfortunate man thinks it best, and more becoming, to deny the truth of what he had previously confessed; and he will state that it had been extorted from him. On the contrary, if he denied knowing any thing of the matter at first, and he should shortly afterwards hear some of the sepoys, or any other prisoners, talking over the business, and discover or

fancy, he discovers, from their conversation, that some of his friends have confessed and are likely to be pardoned, and that he himself was described as one of the most formidable and principal persons of the gang, he is puzzled how to act; for resentment and pride nearly make him determine to continue silent, and brave all danger. However overcoming these feelings, and wishing to extricate himself, if possible, from his difficulty, he entreats that it may be made known that he has something of a very important nature to communicate. Then follow further declarations and recantations. The matter becomes extremely intricate, and the conduct of the prisoner so perplexing, that after trial it becomes a most unsatisfactory and most difficult matter to come to a decision on the point.

The following is said to be the general opinion of the Ramoossies respecting the punishments inflicted by our courts on such criminals as are convicted before them. A Ramoossy is said to care little for a punishment of two years hard labour, especially if he has been fortunate enough in preserving the stolen property for which he is now suffering confinement, as he will enjoy himself after he has been set at liberty. The separation from his wife or mistress, is a source of sorrow; but then they enjoy extremely comfortable quarters, a good and regular supply of food, and have comparatively light and easy work. It is a common observation, that few of the poorer and lower orders are so well off and happy as the Government prisoners. The case is much the same when they are sentenced to five years imprisonment. They console themselves by saying, that, after three years, they will have only two more to remain in Jail—upon the whole thinking lightly of it, unless they happen to be old men—and hoping they will have an opportunity for gratifying their revenge somehow on the persons that gave evidence, or information, against them. They greatly dread fourteen years imprisonment, and the sentence of hard labour for life, to many of them, is worse than a sudden termination of life. The idea of transportation fills them with horror, and is looked upon as a moral death *

Although the following anecdote is unconnected with the present subject, I am induced to mention it as it gives some slight insight into the feelings of some of the members of the predatory tribes. The Koley Higgiah Thoukkull lives in one of the small villages in a valley of the Syadry range of Ghauts—some miles north of Joonere. He had never spoken to an European until he met me, al-

* The wife of a Ramoossy lately transported from a village near Poona has since been married to another Ramoossy.

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though he had seen four at different times passing through the country.

This Koley * was a man of a bold, active, and restless character. After he had been seized and placed in confinement, I asked him some questions with the view of gaining information that might guide our operations more successfully against the insurgents. He had a wife who, I had been told, was young and rather good looking, with a couple of children; to visit whom, after a considerable absence, he had repaired to his village, which circumstance led to his apprehension. He seemed a rather wild and uncouth sort of being,—and as I was desirous of learning from him, what his ideas were with respect to his then situation—and what anticipation he had of the nature and extent of the punishment he was likely have to undergo; he was requested to give some account of himself; he said, he had been induced to join the insurgents in the hope of realizing some money, for he was in debt. His creditors had so teazed him, that he was at a loss how to satisfy them. He had tried farming on a small scale, but was obliged to give it up—for his debt increased—and latterly he had bound himself for a specified time to serve one of his creditors to clear off his score with him. I now told him in a serious manner, that I regretted he had acted so thoughtlessly, as to join the rebels, who had not only been plundering, but had killed and wounded some of our troops;—and added, that I supposed he was indifferent about what would be done to him in consequence—for, that he must care little whether he was hang-

* There are several classes of Kolies, (or Coolies as the name is written by us in general. The Kolies inhabiting the hills of the Syadry range, from the vicinity of the fort of Trimbuk to Bheema Shunkur, both above and below the Ghauts are cultivators, but at the same time most enterprising and determined robbers. They are of a more pure race than the Kolies in the Attaveessy, and more to the northward. Those settled around the Poorundur hills, are of the same class as those found scattered over the Dekhan and employed as the village Koley, (one of the Ballottah institution,) who supplies the inhabitants and travellers with water, &c. The boatmen and fishermen on the coast around Bombay are Kolies, (Solesey,) and many of them are common labourers. I am inclined to think, the common term Cooly applied by the English to a porter and frequently to any person that works for hire,—must have originated amongst the first English settlers at Bombay. A passenger coming ashore when a ship arrived from Europe, may have wished to give a box or package in charge to some native (probably a person of caste) near him; this man would naturally call out to a Koley to come and take charge of the gentlemen's box,—or a servant might have said, he would go and fetch a sufficient number of Kolies to transport the baggage to his Master's quarters. Thus the terms would have become familiar and indiscriminately applied to all labourers and porters,—and soon spread among our few countrymen in India at the time. The name of this tribe is written Koley by the Natives and by a few English,—although more generally Cooley.

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ed or transported * or worked for life on the roads. This man really supposed I had the power at the time of awarding either punishment, and that it only remained to forward him to Ahmednuggur to undergo the sentence. Looking at me rather earnestly, he replied, that he would prefer being hanged. He was asked why he preferred death. He answered by saying, that it would relieve him from all other troubles; that his *destiny had been shattered*, his good luck had forsaken him, and that he was abandoned to misfortune. It was remarked to him, that working all his life time would certainly be preferable to death. He said no; he could not support himself under continual imprisonment and labour. Then why not be transported? he could not endure hearing of transportation; compared to that, death would be a favour. He was asked if he was fond of his wife and children, and he replied with great feeling, that he was, but that there was no use in thinking of them now; I then said that, probably, he would like to see them. He seemed composed, and did not answer for some little time. This might have been misconstrued into indifference, however, there were indications painted on his countenance of a great internal struggle. After a short time, he said, that he did not then wish to see them, in fact, that it would cause them much distress, and do neither of them any good. It was observed to him that if he was only condemned to hard labour for life, he would still have the satisfaction of occasionally seeing his family to whom he was so greatly attached, and hearing now and then of his relations and friends:—he looked now like one more reconciled to his fate,—he raised his joined hands to his forehead, and bending himself in a supplicating posture (he was sitting in front of me on the ground in the entrance of the tent,) begged that I would dispose of him in whatever way I liked. This man having rendered considerable service afterwards,—a pardon was extended to him, and he is now residing in his village.

Such of the Ramoossies as were guilty of commttting excesses during the former Government of the country, were visited in general with the most cruel and terrible punishments of mutilation and death,—when they were apprehended much pains were seldom, or never taken, to discover who were the most guilty, or if there were any innocent amongst the party. The punishment determined on,

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* Kala pany, dark water, in allusion to the ocean, is the term used by the natives to express transportation,—those in the interior, picture the place to be an island of a very dreadful description, and full of malevolent beings, and covered with snakes and other vile and dangerous nondescript animals.

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used too frequently to be an indiscriminate massacre of the prisoners. In fact, it appears the Ramoossies have always been considered a most incorrigible race, that could not refrain from gratifying their inherent and vicious propensities to plunder; and it likewise seems to have the popular opinion, that Government should once in every fifteen or twenty years, act with a more than usual degree of energetic severity against this devoted tribe, by putting many of them, for the sake of example, indiscriminately to death, under the impression, that it was not only absolutely necessary to check their crimes, but also to lesson their numbers; lest they should ere long become so numerous and powerful as to banish all peace and security from such parts of the country as they resided in.

The most glaringly shameful and discreditable measures and acts of treachery, on the part of the former Government and its agents, used to be practised to wile these lawless and troublesome characters into their power by employing confidential persons to offer them pardon, rewards, and future service—and whatever they may have been claiming, if they would only remain quiet, and not disturb the peace of the country; at the same time exhibiting false grants, deeds, &c., more successfully to delude their intended victims; and concluding the scene with presenting them with honorary dresses, or some mark of the approbation of the ruling authority. They then watched the most favorable opportunity for destroying them.

Human natue is shocked at hearing the account of the treatment these misguided men and their families received at the hands of their unfeeling rulers. Little or no remorse seems to have been experienced in sacrificing human life to the barbarous expediency of diminishing their numbers with the view of either checking the outrages they were guilty of, or, if possible, eventually exterminating their race. However, due allowances should be made for the state of society and of civilization among the Hindoos:—under their despotic Governments, dissensions frequently took place, in the families of their princes and nobles which led to rebellions and wars. The functionaries in the distant provinces were indifferent to the orders of their superiors—confusion reigned almost every where—they were habitually accustomed to arbitrary and summary measures, and became used to the sight of blood, so that for acts of rebellion, robbery, and murder, the Ramoossies, who where execrated, were unhesitatingly butchered; and for crimes of a minor nature they were most cruelly dealt with—several of them, some years back,

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had their eyes destroyed, by running red hot spikes into them; and some time afterwards, they were precipitated from the steepest declivities of the hill forts in the Punt Suchew's country for being guilty of forming an intimacy with some Brahmuny women. Their male children of three and two years of age, even infants six months old, have been torn from their mothers' breasts, and cast to the Mangs to have their throats cut.

In the short account of the Poorunder Ramoossies, various instances will be related of the cruelties which they have been subjected to.

There is no doubt but that during the period the Peshwah's family ruled the country, (about a century,) the most daring and enterprising of the Ramoossy Naiks were frequently protected by Jageerdars, and powerful Patells, and in many instances, by the Government agent and officers, in authority. It is very certain that the Naiks were both indirectly and directly encouraged to plunder, and commit all sorts of depradations, by such persons, who received a valuable consideration, or a fixed share of the amount realized by such means, and in general, that it was only, when the property of some rich or influential individual, or that of a person who had a relative at court was plundered, that redress could be obtained. The Ramoossy is well aware that money is all powerful, and although no one could be more unwilling to part with it, than he is, still when he saw pressing and seemingly unavoidable danger before him, he, by a timely and judicious distribution of presents, purchased impunity. Yet the Ramoossy's natural proneness to get into his hands the property of others, urged him to follow these unlawful practises, until he had either incurred the displeasure of his protector, or his cupidity and rapacious habits, made him neglect giving bribes to such as expected them, or who considered themselves entitled to them. This brought matters to a crisis that terminated in his destruction.

It is said the Ramoossies formerly were in habit of indulging deeply in the spirit of revenge; that it was even customary for the parents, on their death bed, to remind their offspring of the ill treatment they had experienced at the hands of any particular person, and that they must not forget the obligations they were under of being revenged, by discharging the debt when a favourable opportunity offered of doing so; however under the British sway, they find the performance of such a task beset by imminent dangers, and consequently, think seldom of indulging their vindictive passions.

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When a Ramoossy has infringed, or transgressed, against the prescriptive customs and rules of their tribe, he soon finds it necessary to conciliate his relations and friends, rather than incur the penalty ultimately of expulsion from his caste, by shewing an obstinate spirit of insubordination and indifference to long established usages, and to the authority of the Naiks of his tribe. In Maundesh the Chowan and Jadoos are looked on as the Patells of the tribe, and styled so, the Chowan being the Mookkudum or chief. The Patoulah is the Chougla, or deputy, and the Mundly, the Phier Naik, a Jungum, or Linggaiut priest is called in occasionally to assist in some ceremonies at the termination of which he is presented with a turban.

When the Elders call on an offender to answer the charges that may be brought against him, by way of making him do penance, he is sometimes obliged to take the shoes of all the Naiks present, and tying these with a string he places them on his head, and is made to stand in their presence for hours, entreating and supplicating them to pardon him, to overlook his offence, and to re-admit him into their society again. The Naiks having discussed the matter—it is generally settled, that they direct him to pay a fine according to his means; and with the money an entertainment is provided (the necessary quantity of liquor is not forgotten) for the Naiks and a portion of their followers, when the feast has been prepared—they all sit down in a row—or in a circle if more convenient; and when the leaves from off which they eat their food have been replenished, and the customary propitiatory offering made, the penitent approaches the Naiks and is presented by the Chowan Naik first, and by the others successively, with a grass (a mouthful) from their respective shares, or dishes; after partaking of their feast in this manner, he is considered as restored to his former station among them.

The illegitimate offspring of a Ramoossy by a woman of the Koonby caste, and likewise its mother, is admitted into their community by a similar proceeding. The father having assembled four or five of the principal Naiks of the district in which he resides, with their followers, he entertains them according to his capability, expending from twenty to fifty rupees, and sometimes double that amount,—each of the chief Naiks are on such an occasion presented with a selah, worth from five to six rupees. In this manner they admit converts from the higher classes to join their tribe after undergoing the prescribed ceremonies established among them for that purpose. The son of a Koonby, &c. of the age of ten, fifteen, or

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twenty years, who has associated with them for sometime and been admitted as described, they will marry to a woman similarly circumstanced, and should there be any difficulty in doing so, the Naiks will prevail on some quiet and poor Ramoossy to give his daughter in marriage to such a convert. The offspring after the second, third, or fourth generation is considered to have attained sufficient purity of caste to intermarry with any of the Naik's families.

A Ramoossy who cohabits with a female of the Mhar caste, or any of the lower tribes, is considered to have degraded himself, therefore is deemed unworthy of enjoying the privileges of their society, and is consequently, expelled from their tribe.

I have before stated that many of the Ramoossies live in great misery, merely from hand to mouth. Their food is of the poorest description, although they will generally eat all animal food when they can get it with the exception of that of the cow, and the common village hog. They express a degree of horror when asked if they eat beef, although many persons maintain that they do so. I have questioned many of them on the subject, but they invariably denied it. However, some of their fathers may have indulged themselves now and then with a beef-steak, but the children appear to have relinquished a custom reckoned odious among the Hindoo population, with the exception of three or four of the degraded classes, who even eat carrion. The Ramoossies are fond of indulging in spirituous liquors; but they say they are now under the necessity of abstaining from this beverage owing to their poverty, and the difficulty of obtaining it. It might be generally supposed that these people lived with some degree of comfort, but they are thoughtless and improvident; and, notwithstanding that their stock is occasionally increased from extrinsic sources, by the addition of a few rupees in cash, a few gold and silver ornaments, or a few brass or copper pots and pans, or puggries and anggrikas, or saries and cholnas, dhotturs and chollies, coarse and fine clothes, still, more or less poverty, exists in the Ramoossie's house, and it is only in the Naick's dwelling that appearances of some comfort are to be found, unless it be in that of one specially favoured and patronized by him; but with very few exceptions, the Ramoossies are spendthrifts, and in a very short time expend whatever falls into their hands, for the Chief Naiks contrive to keep all the others in great subjection; so that, when they have rendered the Naik his dues of any property they may have plundered, little remains for their own consumption, and in the event of a common Ramoossy declining to

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grant his superiors the usual perquisites, most likely he will very soon have cause to repent the circumstance, for the Naik having learned all the particulars of the robbery, he, or another person for him, will communicate the information to the local authorities which ultimately leads to the stubborn Ramoossy's apprehension, conviction, and punishment. None of this tribe appear to have entered as sepoys into any of the Regiments in the British service; but some few of them are employed as sibundies, and not immediately under their own Naiks. Formerly several Naiks, with two or three of their relations, were employed as Silladar horsemen with different Jaggeerdars in the Mharata armies.

The Ramoossies, it may be said, are an extremely hardy, active and enterprising people, but at the same time covetous, rapacious and treacherous—in fact they possess many bad and few good qualities, their passions being in general unrestrained by any correct moral principles.

They delight in an idle roving life, assuming most commonly the character of the hunter armed either with matchlock-gun,* or snares, occasionally killing tigers, wild hog, deer,† hares, partridges &c. for with few exceptions they would consider the toilsome and domestic habits of the industrious husbandman altogether unbearable. Those however, settled in Maundesh, are of a more peaceable description and of more industrious habits, and the Ramoossies residing in the Akolla, Sungumnair, and Sinnure Pergunnahs of the Ahmednuggur collectorate, it may be said have become pure cultivators.

In their appearance, they are scarcely to be distinguished from the Koonbies (farmers) and the rest of the lower orders of the population. Their features in general, are rather ill favored, although many of them are stout and very good looking, they are frequently seen well dressed, and wearing gold and silver ornaments—many of them appear to live to a very old age, and when

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* They were formerly armed with bows and arrows. The Ramoossies and Bheels and many of the Kolies use the figure of a bow and arrow as their sign Manual. In the same manner that the other classes of the community use the impliments of their profession; viz. the sepoy his dagger, the farmer his plough, the grocer his scales, the weaver his shuttle, the mhar (the same as dhere and purwary) his staff, the mang his bhall singarah or knife.

† Many of the Ramoossies are capital marksmen. Several of them in the vicinity of Poona have Rifle guns and occupy their time in killing deer, ducks, &c. which they either sell in the market or take to the houses of such gentlemen as are in the habit of employing them as Shikarries or game-killers.

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well advanced in years they preserve a hale and vigorous appearance.

Their women are also very active and hardy, and many of them, clever and intelligent. It is seldom a Ramoosseen with a very handsome countenance is to be seen; they are probably in this respect more ill favoured than the men. Yet some of them, are good looking and possess pleasing features. They exhibit great affection for their offspring, and are considered comparatively good and faithful wives, yet most likely this proceeds more from the dread of experiencing severe correction * at the hands of their husbands, in case of a dereliction of conjugal duties, than from a sense of the virtuous propriety of such conduct. The women certainly exhibit a greater attachment for their husbands than the latter do for their wives.

Their children are brought up with the strictest injunctions to secrecy in regard to all that concerns their domestic affairs, and particularly enjoined never to mention to any one the circumstance of having seen a stranger or other person coming into, or departing from their houses, or the circumstance of their fathers, uncles, or brothers being absent from home; most of their boys and girls seem to be very precocious little creatures. Many of them however fall victims to the small pox, when the disease is raging in the country.

On the subject of their religion, it is not necessary to say much. The Ramoossies it may be observed, pay their adorations, and present offerings to the different deities worshipped by the inhabitants of the Dekhan. But their principal object of adoration is Khundy Row or Khundobah, (alias Martinda,) an incarnation of Mhadeva, or the deity personified as the destroyer, or more properly as the regenerator, and represented by the Ling embedded in the Yoni or Salloonka, (the phallic emblem of Greece and Egypt.) There are three noted temples dedicated to this god in the Dekhan, one of them is at Jejoory, which is reckoned a place of great sanctity. Although the account I have of the place from the Poorans must be of a rather antiquated date. It was only upon the establishment of the Mharata court in its plenitude at Poona, a little before the middle of the last century, that Jejoory it seems became the resort

* In former days a Ramoosseen who had been guilty af adultery was very cruelly handled, probably her nose was cut off, or she was privately put to death, but much depended on the disposition of her husband, and if her paramour was a man of high caste or otherwise. The Adulterer seldom escaped the vengeance of the enraged husband.

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of large bodies of pilgrims. The first Mulhar Row Holkur* expended large sums of money in improving the temple, and forming a large tank in the vicinity, and granting charitable donations for the support of the attendants of the temple and pilgrims visiting it. Khundobah is the chief of their household gods; he is also the most popular with a large portion of all classes of the population of the Dekhan, but with the Ramoossies he is mercury, or the god of robbers. The worshippers of Khundobah have always in their possession a small silver plate on which a likeness of this deity is embossed. He is invariably represented as mounted on horseback, with his wife Malsara (an incarnation of Parwutty the spouse of Mhadeva) sometimes sitting behind him, and at other times in his arms, with his dogs running along side of him, he is armed with a sword and trident. The Termeric or Hullud is sacred to this god, and then termed Bhundar. The goddess Bhoany (kalie Deve) is also very much endeared to the Ramoossies, as well as the god Mhankallay. There are very few followers of Rama, and these abstain from animal food. Kunobah (krishna) has a few followers; when required, they kill a sheep, or a fowl, at the shrines of the inferior goddesses, Tookaie, Junnaie, Feringgaie, Nowlaie, Mookaie, and Kallaie, besides Massobah and Muskobah, as well as Vettall (the prince of evil spirits) and Wagobah are not forgotten. They are very punctual in abstaining from food on fast days, particularly on Sunday, the day of the week dedicated to Khundobah. Both the Ramoossy men and women frequently undergo the expiatory penance (operation) of the Bhuggaar or swinging ceremony, when the penitent is elevated to a considerable height and swung round a pole erected in front of the entrance of the temple, supported by a hook run through the skin and sinews of the back.

The Ramoossies especially those within the British territory are rather notorious for establishing illicit intercourse with the wives and daughters of the Koonbies, &c. and enticing these from their homes to reside with them, the success of their intrigues with women of other tribes, and so much higher than themselves, is no doubt chiefly owing to the Ramoossy being able to indulge them now and then with a present of a new sary, and a few cholies, besides a few trinkets which they had procured by clandestine and violent means.

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* The Sindia family expended part of their wealth, at the same time in a a similar manner on the temple of Jotteeba at Kollapoor.

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For the native women of all classes, high or low, rich or poor, with very few exceptions, are the most frail and mercenary creatures maginable, their vanity being such, that it renders them inordinately fond of ornaments and fine clothes, and making a show even beyond their means; they are naturally of a warm temperament, and their husbands not being permitted to be the object of their own choice, for they are married when they are mere children, that their after conduct through life, is certainly not to be much wondered at. Their being without the advantages of education, their conversations, their songs, their numerous romantic, lascivious, and love sick stories of heroes and heroines, demi-gods and goddesses, which are familiar to them all, and which they are constantly in the habit of hearing recited in the porches of their temples, and frequently in their own houses by professed itinerant story tellers, and expounders of their legends, may partly account for the state of morality among the Hindoo community of India.

Although the misconduct of the females of a family is of very common occurrence, and very generally known in the different towns and villages. The inhabitants are very backward and cautious, in making allusion to such matters, except, in confidence, even among themselves, and more especially in their intercourse with Europeans, unless it is communicated from malicious motives or mentioned by some tattler, who is either looking out for service or favour.

CHAPTER IV.

The Ramoossies cross to the Poorundur hills.—The period uncertain.—They are actively employed by Seevajee.—Are rewarded by Sahoo Rajah for past services.—They become very troublesome and commit great excesses.—Pillajee Jadoo Row nominated Sir Naik, and employed to restore order.—His sanguinary proceedings.—The Ramoossy Naiks engage to continue quiet.—They are employed in the Town of Poona as Watchmen.—They advance towards Akolla and Sungumnair.—Become peaceable and industrious farmers and labourers in those districts.

I shall now proceed, to give a sketch of the history of these people after they crossed the Neera river, and settled in the Poorundur hills; from whence they subsequently spread themselves over the Poona district, and kept moving northward, till their progress was arrested apparently by coming in contact with the Bheels on the banks of the Godavery.

It is very uncertain when the Ramoossies first crossed to the north bank of the Neera, for the purpose of residing permanently in the Poorundur district, some of the oldest of them (men between

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eighty and ninety years of age,) who have been questioned on this point, say, that they have always understood that there were a number of families settled to the north of the Neera, and about the Poorundur hills, many years before Seevajee was born, but that it was during Seevajee's time, when he commenced his struggles with the Mahomedan states, that the Ramoossies flocked to his standard.

They are said to have always favored Seevajee's interests, and on many occasions to have exerted themselves greatly in his service, causing unceasing annoyance to the Mahomedans, who had detachments stationed in various parts of the country, for the purpose of overawing the evil and disloyal portion of the population, who were becoming at this period, very numerous. The Ramoossies were in the habit of plundering the Mahomedans during the night; attacking the houses, or tents, of their principal leaders, and carrying off much valuable property; besides they were very successful in depriving them of their horses and camels, and carrying off some of their elephants. Oomiah's family preserve a letter from the Rajah of Satara, the date of which is uncertain but it is addressed to Wurdojee, one of Oomiah's ancestors, applauding the dexterity with which he had plundered the Mahomedan commandant at Seerwill, and his steady conduct subsequently when he was captured, and directing Wardoojee to repair to "the presence" in order that he might be rewarded for having discharged his duty so gallantly. The old men among them relate a number of anecdotes connected with exploits of their forefathers, when employed under Seevajee.*

At the period of Seevajee's first occupying the fort Singhur, or according to the natives, Seogur, he was extremely anxious to get possession of the fort of Poorundur (one of the many names of the god Indur, and not Poonadhur, as written by some Europeans,) a detachment proceeded from Singhur accompanied by a party of Ramoossies to surprise, if possible, the Mahomedan garrison, and capture the place;—after much difficulty and labour they scrambled up a steep part of the hill unobserved, and a Ramoossy contrived to ascend the wall, to the top of which he attached the rope ladders, which they had carried with them. The Ramoossies armed with swords and spears, were now ascending the fort wall when the sentry in the vicinity descried them, and lost no time in cutting the ropes; upon which the escalading party were all precipitated to the

* This must have been from about one hundred and fifty to one hundred and seventy five years ago; for Seevajee was only born A. D. 1628.

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bottom, by falling on each others arm, several of them were killed, and the rest desperately wounded, among the latter was Mallmhyputty, a very active and enterprizing man, and brother to the before mentioned Wurdoojee Khomney. He, however, managed to crawl away from the spot, and conceal himself under some bushes, and during the following night he creeped to a small village in the neighbourhood, where he had a friend who took care of him, and dressed his wounds; at the expiration of two months he recovered suffiiciently to enable him to return to Singhur, where he learned the melancholy tidings of his wife having destroyed herself. The detachment on reaching Singhur, after their failure at Poorundur, mentioned, that so many had been killed of their party, and the rest so badly wounded, that they could not move from the place, and as a detachment from the garrison had sallied forth to attack them, they would of course, put to death any wounded men they might have discovered. These sad tidings so afflicted and distressed the wife of Mallmhyputty, that she resolved on not surviving her husband, and made up her mind to terminate her existence as a suttee, which she accordingly did.

Seevajee soon made another effort to gain the Poorundur fort, and succeeded. The Kolies residing near the hill fort, as well as the Mhars have been employed many years as watchmen to guard the approaches to the place, and the Ramoossies must have been included in the list of hereditary servants and defenders of the fort about this time.

After Seevajee's death, as he could not, during his active and bustling life, reward all those who had faithfully and ably served him; and his son's (Sumbajee) misfortunes prevented him doing so, Sahoo Rajah determined on bestowing suitable rewards on the descendants of those who had contributed to the establishment of his grandfather's kingdom; and on the part of the Poorundur Ramoossies, Dhollia Bhandolkur (an ancestor of the Naiks of Sassoor, and father of Cheembajee, who was killed at Sassoor,) a shrewd and intelligent man, was deputed to Satara to wait on the Rajah, upon which occasion His Highness issued orders for a considerable quantity of land being granted to the Poorundur Ramoossies, together with the mookkassa of the village of Sakoordy, which they still enjoy, and a portion of the land. It is said that when the Ramoossy Naiks laid the Rajah's order for the above grants before the Peshwah, Ballajee Visswanath (who was, in fact, at this time supreme ruler,) told them that the Rajah must have committed some mistake, for that

he could never have intended to let them have lands to such an extent, and that, in consequence, a much smaller quantity (about five chours of a hundred and twenty begahs each) was allotted to them; remarking, at the same time, that there was a great deal of grass and firewood on the hills which they could cut and sell: about this time, seventy five thousand rupees had been sanctioned for the annual expenses of the fort; and the Ramoossies were informed, that their pay was included in that sum, and that it should be issued to them monthly.

About the year 1730, of the Christian era, the Ramoossies became extremely troublesome in the Poorundur district and around Poona, assembling in large bodies, and plundering in all directions. The intercourse, even between the chief towns in the district was partly interrupted, and travelling along the roads, that led through the hills, was quite unsafe. The Satara Rajah (at this time a complete pageant,) at the instance of the Peshwah, nominated Pillajee Jadoo Row, to be Sir Naik of the Ramoossies, a man who had on many occasions distinguished himself; having been chiefly instrumental in rescuing the Peshwah, and the Poorundury chief, the Peshwah's staunch friend, from the hand of the plunderer Dhumajee. Poorundury to save the Peshwah from being tortured, told Dhumajee that his master (the Peshwah) was not to blame, and that what had taken place (an expedition against Dhumajee) had been at his instigation. The consequence was, that Poorundury was repeatedly made to stand bare footed on heated iron, (that is always used for baking cakes of bread,) and obliged to submit to be pinched all over the body with heated pincers. This led to the Poorundury becoming a sworn brother of Ballajees, and obtaining the rank of the Peshwah's deputy. The new Sir Naik received strict injunctions to act with the greatest vigour in restoring the country to order; and inflict summary punishment upon such of the Ramoossies as merited it.

Pillajee resided in a small village at the top of the Devy Ghaut four miles north of the fort of Poorundur. He was well acquainted with the localities of the country, and with the habits of the Ramoossies. He seized a number of them, and had them executed forthwith. It is said he used to kill many of them himself, by beheading them with his own sword, the Ramoossies having been placed in a row for the purpose and it is further stated, that the Rajah presented Sumbajee, a younger brother of Pillajees, with a sword, telling him at the same time, that he had his free permission

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to put five Ramoossies to death daily with it. Here we can perceive strong indications of what the feelings of the people were towards the Ramoossies and which has continued much the same after a long series of years. When they had been greatly distressed, and thinned in numbers, by reason of the proceedings that had been carried on against them several of the chief Naiks found it necessary to petition the newly constituted Sir Naik to pardon them, promising that they would behave themselves in a more becoming manner for the future; they were therefore shortly afterwards employed by the Peshwah's directions to put down some gangs of plunderers that infested both banks of the Bheema river. Their successful conduct on this service attracted the notice of Government; and, as robberies were constantly taking place in the town of Poona, it was thought advisable to select five of the most respectable of the Naiks, with a portion of their followers, to act as watchmen of that capital; accordingly, the following Naiks were selected for this duty: Abbajee, of Gaiedurra, near Wulty; Malley of Allundy; Bhyrejee, of Mallsirruss; Jannoojee, of Looney (Kallburs,) and Sukkrojee, of Oondry. These had an annual allowance in cash paid to them, besides being put in charge of ten, fifteen, and twenty of the villages near their own place of residence. Of these villages they became the Sir Naiks or head watchmen, and received yearly an allowance of grain, a sheep at the Dursra festival and a pair of shoes from each village. The Naiks employed some relations, or followers of their own, to reside in these villages, to discharge the duties of Rukwalldar, who received the Ballotah allowance from the inhabitants. When the Sir Naik had to move about the district on duty, the inhabitants of the villages they happened to halt at during the day, provided the Naik and his few followers with the requisite quantity of provisions for his entertainment, or gave him money sufficient to purchase the same. This disbursement was inserted, however, in the amount of village expenses, and deducted in due season from the gross revenue of villages, but the Patell and his friend, the Koolkurny, very likely collected the grain, or money, at the time from the ryuts, but never afterwards made them any allowance in return, at all events, only to such of them as understood contending for their own rights. It was in such a way as this, that the heads of villages had the power of acting the part of the embezzler.*

* By charging in the account expenses for a Naik, &c. for six days although he had only halted three days in the village; the same, for one or two of the Sirkar's horsemen arriving on duty at the village, travellers of rank. &c. &c.

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It is to be observed, that, with the exception of the Malsirruss Ramoossy Naik† and his followers, the descendants of the other Naiks before mentioned, have continued to perform the duties assigned to them in the town of Poona to the present day. In the year 1793, the Malsirruss Ramoossies having committed various outrages, a large detachment from Poona unexpectedly surrounded the village and seized twenty seven of them. They were immediately marched to the capital, where seven of them were beheaded, and of the rest, some had their legs, and others their arms chopped off.

The disturbances caused by the Ramoossies,‡ may have originated in their having been displaced from the service of the state; their employment no longer appeared necessary to the Government, and they were consequently driven by necessity to try to support themselves by plunder, for they had greatly increased in numbers at this time; or they may have wished to obtain the Rukwalldar-ship of the different villages of the surrounding district, and there might have been objections to this being granted to them. There is a tradition that the Holgah Ramoossies now settled along the bank of the Senna river, in the Ahmednuggur collectorate, were formerly the watchmen of the villages in the Poorunder hills, from whence they had been expelled. The Ramoossies may have judged the time a favourable one to assert their claim to the demand they had made about the Rukwalldary; there might have been some disturbance in the Poona territory, or the strength of the Mahratta army might have been absent, plundering or conquering some foreign state which led them to hope they would succeed.

It was taking advantage of such circumstances that enabled the Bheels to quit their fastnesses in Kandeish, and cross the Godavery river, till they advanced to the vicinity of Ahmednuggur; and the Kolies in the western Ghauts seem to have been guided by similar movements, each tribe trying to extend the limits of their own jurisdiction, by means of securing the Rukwalldar-ship of such villages, or passes, as were in their vicinity, and unoccupied by the watchmen of any other tribe. The Naiks of different tribes have had long and

† A lineal descendant of Pillajee Jadot Row's a very respectable man, and a person of very retired habits, lives now at Jadoo Wary, three miles from Sassoor. The Peshwah Bajee Row, at the instigation of Trimbukjee Danglia, deprived him of his Jageers. He at present enjoys a yearly pension of five thousand rupees from the British Government. The appointment of Sir Naik of the Ramoossies became extinct between forty and fifty years ago.

‡ When Pillojee Jadoo Row, was nominated their Sir Naik.

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obstinate struggles repeatedly in displacing each others retainers from such situations.

The Ramoossies having settled in the Poorunder district and around Poona,—they continued to move northward, along the country on the east side of the Syadry range of mountains, and after a short residence in some of the principal villages, they began to obtain favour among the inhabitants and gradually to send forth members that secured for themselves the guardianship of the surrounding small villages. They gained little ground, however, to the eastward, in the Ahmednuggur district, for here the Holgah Ramoossies were established as the hereditary watchmen, and on the west-side, they were encountered by the Kolies, who reside in the villages in the small vallies on the eastern side of the main range of hills, in many of which the Kolies are the sole inhabitants. These Kolies have been for ages employed by the different Governments of the country to guard the passes in the hills, leading down from the Dekhan to the Konkan, and also to act as police in the hilly tract of country, from the vicinity of Bheema Shunkur to a distance north of the fort of Trimbuck. The Ramoossies therefore, in passing north, kept between Joonere and Panere, and they established themselves in the Kannoor Puthar. (Puthar means an elevated but level tract of ground.) Having descended from the masses of hills south of the Pera river, they gradually spread along the plains around the town of Sungumnair, and westward into the small vallies near Akolla. From Sungumnair they proceeded into the Sinnure district, and a few families are settled a short way only from Nassik.

The Bheels from the southern borders of Kandeish, having been joined by those along the banks of the Godavery, and others settled in the hills, near Sungumnair accompanied by some rebel Kolies, (Ramjee Bhanggra, &c.) some Arabs, and other discontented persons, made an irruption into the Parnere, Akolla, and part of the Nassik districts in the years 1803—4. These plunderers committed terrible ravages, wherever they made their appearance; the inhabitants considered it necessary to fly from their homes to avoid them. They kept possession of the hilly tract for a considerable time, and were not driven out of the country until a detachment of the Poona subsidiary force joined the Peshwah's troops acting against the Marauders,—a sad fate awaited many of the Bheel Naiks and their followers. The Peshwah sanctioned their being seized by means of treachery. While Bajee Row was at Kopurgaun, on the banks of the Godavery in 1806, several hundred miserable Bheels, men,

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women, and children, that had heen captured, rather I should say ensnared by promises of pardon and preferment, were destroyed—the men were beheaded and blown from guns, and the women and children mutilated and cast into wells. Trimbukjee Danglia is said to have been chiefly the cause of so many unfortunate creatures being put to death in cold blood. Fortunately, the Peshwah's Lady possessed more humanity than her Lord and his counsellor,—she contrived to have a number of the Bheel women and children saved that had been thrown into the wells, by employing some persons with ropes to drag them out; in several other places similar tragical acts were performed, although not to such an extent.

The Ramoossies were deprived of the Rukwalldar-ship of the several villages on the Kotool Puthar, near Akolla; the Bheels during this disturbance took forcible possession of them, besides having latterly extended their jurisdiction over villages in the Kannoor Puthar, of which the Ramoossies have been guardians since we had possession of the country. In the borders of the Akolla district, near Kotool, a considerable rivalship, and even enmity, exists between the Bheels and Koley Naiks. The Ramoossies residing in the Pergunnahs of Akolla, Sungumnair and Sinnure, do not appear to have been employed to any extent as village watchmen in those Talooks, in the same manner that their kinsmen in the Poona collectorate and south of the Neera have been; so that, when we contrast the conduct of the former with that of the latter, who are noted as being unfeeling robbers, and the scourge and terror of travellers, and the well disposed, defenceless, and wealthy classes of the society where they reside, it affords us a source of pleasing reflection, to behold those to the north of the Pera river, and along its banks, under circumstances of a different description. How such a diversity in their habits and characters originated, I am unable to say, unless we may suppose that their commingling with the mass of the people, as they have done, proceeded from dire necessity; for when they moved northward they found themselves nearly surrounded by the Bheels and Kolies, and as they were a new people, few in number, arrived among strangers, their conduct may have been closely watched, thus they may have discovered that there was no possibility of practising the predatory system, without being severely punished for every act of delinquency; for here, we behold Ramoossies as peaceable, industrious, and rather respectable members of the community. In such villages as they are settled to the number of ten, twenty, and even thirty, we find, that they form a portion of the industrious cul-

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tivators, and hard working labourers of the place. In these Pergunnahs many of them are Meerassdars holding lands on this tenure, and which they occasionally mortgage or sell when reduced to great want. The Ramoossies become security at times for Koonbies, and mallies (gardeners) on account of any minor offences these may be charged with. In Sungumnair there are twenty Ramoossies who have been employed, as local police in the service of Government. They receive a regular allowance in cash monthly, and have no perquisite with exception of a rupee which they receive in lieu of a sheep at the Dussra, from the villages they protect. During the Peshwah's Government, they were allowed to collect the Balottah allowance from the same villages. The Bheels discharge the duties of the police and village watchmen in the greater part of these three Pergunnahs, and the Ramoossy cultivators present the Balottah allowance along with the rest of the villagers to Bheel watchmen. There is an instance of a family of Ramoossies holding a few begahs of Enam land in the Sungumnair Pergunnah, and another family in the Sinnure. From what the Ramoossies themselves state with respect to their settlement in those districts, I am inclined to think they must have been there at least one hundred and fifty years, but how much longer it is very difficult to say, for there is no data that I am aware of, from which any opinion approximating even to certainty can be formed. It should not be overlooked, that four Ramoossies of the Sinnure and six of the Parnere district are employed in the pay of Government by the Rukwalldar Bheel Naiks. Having now traced the course of these people to the northward, I must return to finish the account of the proceedings of those families that became the hereditary Ramoossies of the Poorundur fort, and then extended along the district east of Jejoory and to the south banks of the Bheema, nearly opposite to Pairgaun or Bhadoorgur.

CHAPTER V.

Account of the Kolies and Ramoossies on the Poorundur Hill fort.—Khundoojee Koley seizes the fort.—New arrangements respecting the garrison and their pay.—Unsettled state of the country.—Ramoossies guilty of numerous outrages.—Dadjee Naik a notorious character seized and executed.—Bajee Row abandons Poona.—The Ramoossies and Kolies retain possession of the Poorundur Hill fort.—The Peshwah ultimately obliged to get a detachment from the subsidiary force to march to Poorundur.—The Ramoossies and Kolies expelled.—Their lands and all their emoluments sequestered.—Gokla puts to death a number of the Jejoory Ramoossies.—The Ramoossies cause disturbances in the Satara territory.—The Poorundur Ramoossies and Kolies have their lands restored to them, when hostilities commenced between the Peshwa and British Government.—The Helgah

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Ramoossies, a distinct tribe.—Robberies committed after the British take possession of the country.

At the same time that the Ramoossies kept advancing in the Joonere direction, they were spreading over the district lying east of Poorundur and between the Neera and Bheema rivers. The hereditary Ramoossies of Poorundur resided in hamlets near the hill forts and on the north side, while many of the hereditary Kolies and Mhars, had houses on the hill within the fortifications. These hamlets were deserted when the Ramoossies were obliged to surrender the fort in 1803, and since these men had their lands and rights restored to them, they have resided in the surrounding villages at some distance from the fortifications. The only person that showed an inclination to re-occupy the ruined hamlets of their forefathers, was Oomiah. He latterly fixed on the site of his father's dwelling on the north side of the Wazzurgur hill fort, where he built a large tiled house. Government gave him permission to cut down a quantity of the young teakwood timber on the Poorundur hill on this account, in the expectation that by the showing him marks of kindness his indomitable spirit would become more subdued, and his habits more settled.

During the period of anarchy and confusion that reigned in the Mharatta state, from the dissentions that existed between Mhadeva Row Peshwa and his Uncle, Ragobah Dada, Abba Poorundury had charge of the fort of Poorundur. The Killihdarship, appears to have been for many years in this Jageerdar's family, but as Abba had attached himself to Ragobah's interest, the Peshwah was particularly anxious to obtain possession of the fort, to strengthen his own interests. Various schemes were now tried to deprive Poorundury of his commandantship, but he being faithful to the cause he had espoused, and suspecting the Peshwah's plans, displaced the Koley Naik, Khundoojee, and his followers, and made them reside in the small villages at the bottom of the hill, fearing that the Kolies might deliver up the place to some of the Peshwah's officers.

Mhadeo Row's friends now determined to get Khundoojee to enter fully into their views, who accordingly settled his plan of seizing the fort, and placing it in the Peshwah's possession. To facilitate the accomplishment of this important object, and remove all suspicion of any hostile intention on his part, he represented that the Kolie's houses on the summit of the hill, from which they had been lately removed, would all be destroyed by the monsoon rains, un-

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less they were newly thatched and repaired. Under this pretext he obtained permission to ascend to the upper fort for the purpose of putting the houses in proper order. Judging that the suspicions of the garrison were completely lulled, with respect to their anticipating any act of teachery on his part, the Naik collected between thirty and forty of the most active of his followers, and made each of them take a load of grass on his head, while a few of them took several bundles of rafters. In each of the bundles of grass the Kolies had inserted their swords, while a matchlock was concealed in the bundles of rafters, and the party, headed by Khundoojee himself, commenced ascending the hill. The Koley Naik had been tampering for some days with a Mahomedan sepoy of the garrission, who, on the day appointed for the enterprise, contrived to fasten many of the matchlocks and swords of his comrades, by means of the slender rope of which the matches are formed, to the pegs in the walls on which they usually suspend their arms, and when Khundoojee with his followers arrived opposite to the quarters occupied by the sepoys,* they threw down their loads, and drawing their swords, rushed on the unprepared and unarmed sepoys, and pursued them all over the hill. They killed and wounded about fifty of them, and the rest fled. Khundoojee immediately adopted the necessary measures for securing the gates, and when the Jageerdar arrived from Sassoor with a party for the purpose of supporting his own men, or re-taking the place, should Khundoojee have been successful, he found the Kolies were in complete possession of the hill, and shouting threats of defiance to him.

The Jageerdar suffered a very heavy loss by this act of the Kolies, for all the treasure, and much of the valuable property of the family, was deposited in buildings on the summit of the hill. There was upwards of sixteen lacks of rupees in gold alone, and Khundoojee, who had sent to inform the Peshwah of his having overpowered the garrison, and being in possession of the place, commenced plundering and secreting the riches which had fallen into his hands, before the Peshwah's people could arrive from Poona.

Mhadeo Row Peshwah, was aware of the large sum of money lodged in the fort, belonging to the Jageerdar's family; and when he despatched a body of troops on the following day for the purpose of *garrisoning* the fort, he gave most particular instructions

* The garrison did not consist of above a hundred men at the time, and these were divided into small parties to guard the gates, &c. so that probably there were not twenty present at their quarters on this occasion.

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about securing the treasure, and adopting such precautions as would prevent the Kolies retaining any part of it for their own use. The detachment from Poona accordingly separated into several parties, and advanced to take possession of the different gateways. These precautions being taken, they searched the Kolie's houses, digging up the floors, and collecting as much of the money and other property as they could lay their hands upon. This took place A. D. 1764.

There was a new arrangement now entered into, respecting the pay and allowances to be granted to the officers and men employed in the fort. A large body of Sebundies were employed, and a certain proportion of Kolies and Ramoossies; little respect however, was paid to the Ramoossies, who were esteemed a degraded caste of vile and incorrigible thieves, compared even to the Kolies, who always experienced more consideration.

The pay of the different Naiks was fixed at twelve rupees a month, and each of their followers had six rupees; they were bound, however, according to a custom that prevailed very commonly in India, to do twelve months' duty for ten months' pay, and even from this allowance so many deductions were made by the different authorities through whose hands the money passed, that a Ramoossy could scarcely calculate on getting four rupees a month. The two months' pay that was deducted, was shared by the officers in the employ of Government, and other karkoons, or accountants, and the disbursement was denominated Durbar kurch, or court expences.

Sad confusion arose in the Mharata country in the year A. D. 1773, when the Peshwah Narrine Row was assassinated. Upon this occasion, the Peshwah's widow, Gungah Baie, was conveyed to the fort of Poorundur by the ministers, Nana Phurnuvees and Sukkaram Bappoo. This lady in due course of time, having been delivered of a son, he was named Mhadeo Row and immediately nominated his father's successor, as Peshwah. Great and continued rejoicings on the hill of Poorundur, celebrated the birth of the young Peshwah; splendid palankeens were presented to the Koley Naiks, in honor of this important event; and the chiefs of the Ramoossies were also distinguished by honorary gifts in Aftabgeers (superb umbrellas) with suitable allowances to provide bearers for them.

About this period, the Koley Khundojee Naik began to have some intercourse with Ragoba Dada, and it is supposed he felt disposed to listen to Ragobah's proposals. It happened however, one day that Nana Phurnuvees repaired to the fort for the purpose of pay-

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ing his respects to Gungah Baie, and consulting her on some important matters. Khundoojee Naik was proceeding to the house occupied by Nana, to visit him. When Nana heard the Kolie's approach announced as Khundoojee Rajah, this circumstance of the Koley's daring to assume such a title of rank, gave Nana very great offence, and he was so indignant that he sent people out to upset the Naik's palankeen, observing to those around him, " Who gave the Koley a kingdom, that he should presume to style himself a Rajah?" After detecting some of Khundojee's intriguing schemes, Nana directed that the Koley should be secured in irons; and he was consequently kept many years in confinement in one of the palaces in Poona.

Several of the Ramoossy Naiks in the Poona district, taking advantage of the very disturbed state of the country, perpetrated many atrocities at the above period. A Naik named Dadjee Ramoossy of Jejoory, but who latterly resided at Soupah, became notorious as an active and daring plunderer. He kept up a number of followers, some of them mounted; and in the disguise of a merchant he was in the habit of making incursions into the Hydrabad and Berar territories and when he plundered a rich man's house at the town he halted at, he loaded his camels with the spoils, and returned home making very rapid marches. The Soupah people lived in great dread of him. The Brahmuns as well as other persons were always showing him marks of attention, entreating him to take care of their little property. To ensure his good will he was at times invited by them to partake of an entertainment. A stranger Brahmun hearing his host ask Dadjee to come and sit down in his verandah, expressed his astonishment at the circumstance, upon which Dadjee remarked, " that the Brahmun seemed rather alarmed at being defiled should he approach nearer; the Brahmuns ought not to forget that when the Ramoossies are plundering them at night they search every hole and corner in their houses, and handle * every thing. How do they manage on these occasions?" !!!

Dadjee latterly violated the chastity of several Brahmuny women. One of these more determined than the rest, proceeded to the fort of Poorundur and represented her case to Gunga Baie Pesh-

* If a pot or pan belonging to a Brahmun has been touched by a Ramoossy, or person of low caste, he will throw away such an article if it is of earthen ware, but if it is of metal, he gets some grass to which he sets fire, and keeps turning the pot in the flame until it has been well heated, and after it has been scoured it is considered perfectly pure. A Koonby is content with washing or scouring a brass or copper pot that has been touched by a Ramoossy, but an earthen one so defiled, he also will cast away.

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ween, declaring that the disgrace the Ramoossy had brought on her was entailing shame on all the Brahmun race, particularly on Her Highness, and that for her own part as her honour was lost, she could live no longer; and it is asserted she tore her tongue out of her mouth and died. The Peshween with mingled feelings of vexation and grief at the sight, took an oath* that she would neither perform her ablutions nor partake of food till Dadjee Ramoossy was executed. Both Sukkaram Bappoo, and Nana Phurnuvees, exerted their best endeavours to persuade Gunga Baie to alter the resolution she had made, as she might rest assured they would punish the Ramoossy. She said, she was determined to adhere to her vow, for she well knew that otherwise some of them would accept of a large bribe from the Ramoossy, and would give him an opportunity of effecting his escape.† The ministers finding that the Baie was inexorable and determined on fulfilling her resolution, swore solemnly by her feet that they would have Dadjee put to death; and she was then satisfied.

A confidential messenger was immediately dispatched to inform Dadjee to proceed forthwith to the Poorundur fort, as he was required for the performance of some special service. He repaired to Poorundur with a number of his followers, and after having received some presents, he was told that a confidential communication would be made to him in the afternoon. When he returned for his instructions, accompanied by a few friends, he was seized. A Brahmun official questioned Dadjee about the property he had secured by plunder and the number of gang robberies he had committed. Dadjee said he had perpetrated eleven hundred and ten robberies; and that he secured the greatest riches in a banker's house at Chamargonda, between one and two lacs of rupees. He and a number of his followers were immediately executed. The natives persist in saying that a charm in the possession of the Ramoossy rendered him invulnerable by its magical influence, and that the executioner found it quite impossible to make any impression on his

* It is not an uncommon practice with the Hindoo and Mussulman women in India, to make such vows when they wish for something that is difficult to be obtained, or have been opposed in any particular way by their husbands, or other persons. The consequence is that all her friends beset and tease the husband or persons that thwarted her until her wish has been complied with.

† Dadjee had been caught several years before this and they were going to execute him for having stolen three of the Peshwah's own horses, but some of the courtiers having represented that it would be much better to have such an active daring man at His Highness's disposal, than to destroy him, he was set at liberty.

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neck with his sword. An order was consequently given to bring a saw to have his feet and hands sawed off, upon which it is said, Dadjee entreated of them to have some patience, and to let him have a knife for a few seconds, and he would remove the *invisible difficulty*. When he got the knife, he made an incision in his left arm, and extracted a valuable gem, that had been placed there by himself; he then told one of the three executioners (who were all greatly alarmed) to strike and sever his head at one blow, otherwise he would fly at his throat and tear him to pieces.

In the month of October 1802, Jeswunt Row Holkur came to Poona to establish a greater influence, if possible, at that court, and to demand satisfaction for the death of his brother Vitoojee Holkur, who had been tied to an elephant's foot, and dragged through the streets of Poona at the instigation of Balloojee Koonjur. This was the commencement of another of those periods of confusion and misrule, which were always seasous of harvest to the Ramoossies.

After the battle of Poona, and the expulsion of the Peshwah from his capital, Holkur constituted Amrut Row, (the adopted brother of Bajee Row,) Peshwah, and called upon the commandant of the fort of Poorundur to deliver up the place to Amrut Row, which was done.

It may be observed here, that the full revenue, or kumall of the forty villages, set apart for defraying the expenses of the hill fort, was ninety thousand rupees,* but they seldom realized above sixty and, latterly only between forty and fifty thousand, this would give, about five thousand rupees monthly. At this time the number of the garrison was increasd.

It will be as well to give some short account of the proceedings of the Ramoossies and Kolies who occupied the fort of Poorundur during the period† the Peshwah, Bajee Row, remained in the Kon-

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* The disbursement of any considerable sums of money among these people was always a source of great profit to the Brahmun accountants, &c., in fact a most extensive system of speculation and embezzlement throughout all the departments of the Mahrata Government, existed at the time alluded to, —and little or no attempt was made to check it until the duties devolved on the British Government.

† Holkur's predatory army under its different chiefs, now spread itself all over the country, advancing as far south as Bejapoor, levying heavy contributions, both in money and provisions, from every village and town. In large towns, the merchants, dealers in money, and wealthy persons, were always seized, and compelled to pay a large sum to ensure the place from being burnt and plundered, or they were dragged about the country until they entered into some engagements to make good the amount demanded. Se-

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kan, and after his return to Poona, in May A. D. 1803. Of the men forming the garrison of the fort, who amounted to upwards of a thousand, the greater part were Ramoossies, and the Naiks of this tribe had assumed the principal authority. They were in the habit of collecting part of the revenue of the forty villages that were assigned for defraying the expenses of the fort; and when Bajee Row sent orders to them to deliver up the place to his officers, they declined attending to his orders, stating in reply, that they retained possession of the hill by the directions of their master, the Peshwah Amrut Row.

It is well known, that it was the wish of the Ramoossies, to contrive to keep possession of the fort as a strong-hold, and to render themselves independent of the Peshwah; merely acknowledging him as prince of the country. Bajee Row employed some of his own and the Poorunder Jageerdar troops for about seven months against these rebels, but without any success whatever. They had many skirmishes, and a few men were occasionally killed and

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veral of these men were conveyed even to the north of the Nurbudah river, and never returned to their homes. Small villages were unmercifully sacked, and afterwards frequently fired, and the inhabitants most cruelly beaten and tortured, to force them to show where any valuable articles might be concealed. Upon Holkur's retreat to the northward, when Sir Arthur Wellesly was approaching Poona, he carried on the same system of devastation. The inhabitants say, that the little property (gold and silver ornaments) that had been in their families for three and four generations, was carried off by this host of marauders. A more dreadful calamity befel the population of the ravaged provinces, than merely losing their gold and silver ornaments, grain and cattle; owing to the disturbed state of the country, cultivation was entirely neglected, the farmers were afraid to appear in their fields, and in a great many instances, their cattle had been taken away, or strayed, so that a most distressing famine succeeded to complete their evils. The scarcity of grain arose entirely from the miseries above alluded to, for there had been an abundant supply of monsoon rain in the years 1801 and 1802, and grain had been selling at (22) twenty two seers for the rupee, previous to Holkur's invasion; but the quantity of grain consumed, and purposely destroyed, between October 1802, and the end of April 1803, was such, that from May to August grain was sold at the enormously enhanced price of (1¼) one and one quarter seers for the rupee. Some early grain ripened by the end of August. Three seers were then procurable for a rupee, and in October and November five seers were tendered for the same sum.

The most heart-rending scenes are related of the distressing consequences of this dearth, by which many persons died. There were instances of mothers devouring their own offspring. Many persons to save themselves from starvation, sought shelter in the adjoining countries, for the grain dealers of those parts, dared not venture to send their property into the desolate territory, apprehensive of encountering plunderers.

There is not a town or village, within the limits of the space which Holkur's army passed over, that does not at this day, exhibit sad marks of the wanton rapacity of these cruel plunderers, although thirty years have elapsed, and it is to be feared, it will require many years of our protection, and of a most kind and indulgent treatment, to efface the signs of those by-gone ravages, and render the people, but more especially that most useful class, the hard-working and industrious farmers, somewhat independent and comfortable.

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wounded on both sides. The Ramoossies very frequently sallied forth from the fort to perpetrate their Durrorahs in some of the neighbouring villages, but they chiefly visited the houses of the wealthy residents of the town of Poona—and robbed travellers that went along the roads leading through any part of the hilly range in the day time;—while the Kolies were principally employed in carrying off grain from the surrounding villages for the use of those in the fort, —for they kept their families and all means of subsistence with them upon the hill.

All attempts to capture the place having failed, the Peshwah made an application to the British Resident at Poona for the assistance of a detachment of the subsidiary force to co-operate with his troops in subduing the rebel Naiks who held possession of Poorundur; upon which an application was made to the Ex-Peshwah Amrut Row, for an order to the Ramoossies and Kolies to deliver up the place to Bajee Row,—when this document reached Poona, a detachment from the subsidiary force with some guns, moved towards Poorundur, and in the name of the Peshwah, summoned the garrison to surrender. The rebel Naiks, seeing the danger now impending over them, came to the resolution of obeying the order, and in the course of the two following days the fort was evacuated. The Peshwah immediately gave direction for all the Ramoossies and Kolies, that were engaged in the rebellion to quit the district, the authorities of which were directed to sequestrate all the Enam lands, and all rights and dues, which the Ramoossies and Kolies had hitherto enjoyed, at and near the Poorundur fort.

The greater portion of these people, went to some distance from their native place of residence, to obtain a livelihood by performing service, or to subsist as their wits might enable them.

Before the Ramoossies descended from the fort, Ragoojee Khomney, a nephew of Dadjee Naik's, (the father of Oomiah) proceeded to the shrine of the god Kidary, (one of the tutilary deities of the fort, which is on the most elevated part of the hill,) and taking off his turban, he cast it aside, and tied a kerchief on his head, and declared in the presence of the image, that he would never wear a turban again, till he and his tribe were restored to the rights and privileges of which they were now deprived, and which their ancestors had enjoyed, and handed down to them. He implored the god to listen to his prayers, and aid the Ramoossies in their present difficulties, and recal them again to reside in the abode of their fathers, protesting that upon this taking place, he would make a suitable offering to the god.

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Raggoo, accompanied by his son, and also his cousin Oomiah, with several of the Poorunder Ramoossies, afterwards proceeded to the eastward; and in A. D. 1815, in a skirmish between the Ramoossies and a detail of the Nizam's troops, in the vicinity of the fort of Parinda, Raggojee and his son were most desperately wounded, and both died a few days afterwards. Shortly after his return to Poorundur, Oomiah imitating the chivalrous example of his spirited kinsmen, threw away his turban and determined to fulfil his cousin's vow.

The various petitions presented by the displaced Naiks to the Peshwah's Government at Poona subsequent to this, imploring and entreating that their forfeited lands and rights might be restored to them, never received the slightest attention from Bajee Row, or his ministers, until the end of the month of December 1817 and January 1818, when the Peshwah was involved in hostilities, with the British Government and he was flying before the British troops. The Ramoossies judging that the present state of circumstances would be favorable to their views, presented a petition to the Peshwah tendering their services to him, and at the same time, praying for a restoration of their rights. Bajee Row directed Gokla to issue orders to the Mamlutdar of Poorundur to assemble the Ramoossies and Kolies, and to restore all the freehold lands and rights belonging to them, that had been sequestrated upon their expulsion from the fort of Poorunder in the year A. D. 1803. He also ordered that a certain number of both classes should be immediately employed to guard the approaches to the fort. I have had this information from the Brahmun who received the order from Gokla, and had the carrying of it into execution. Two months afterwards the country was put under the management of different British authorities.

For several years after Bajee Row's return to Poona from Bassin, (A. D. 1803,) the Ramoossies were guilty of many outrages both in the Satara territory, and the country east of Poona, and along the banks of the Bheema river. The Ramoossy Naiks of Jejoory had also become very formidable, plundering the surrounding villages, and rendering it unsafe for travellers to pass along any of the roads in the vicinity, unless they were armed, and able to face these lawless bands. However, sometime in A. D. 1806 when * Gokla

* The Ramoossy Naiks of Nandgerry, a few miles north of Satara, had become very formidable a few years before this. They had assembled a body of two hundred horsemen, and about as many infantry, and supported these by plundering in the surrounding country. They were anxious to retain the fort of Nandgerry in their own possession, as a strong-hold for them to retire to in case of their being attacked by the Government troops. The outrages

had suppressed a disturbance in the Satara district, caused by a resistance to the Peshwah's authority by the Preethy Nidhy, who was seized, and sent a prisoner to Poona, he resolved to chastise the Jejoory Ramoossies, when passing that place on his return to Poona. Accordingly when he approached Jejoory, he made his troops surround unexpectedly the small village occupied by the Ramoossies. Several of them were killed and wounded in the skirmish that took place, and a party of them that escaped to the hill on which the temple stands, were subsequently captured. Gokla was anxious to make an example of those that had thus fallen into his hands. Among them were some strangers, not belonging to the place, but no notice was taken of this circumstance, and in the dusk of the evening the two chief Naiks were blown away from guns and twenty six other Ramoossies were beheaded at the same time by torch light. The reason assigned for Gokla having accelerated the execution of these men, and not waiting till day-light the following morning, was, that he apprehended some of the friends of Khundoojee Naik of Jejoory, would succeed in saving him, by tendering a large sum to some of the courtiers around Bajee Row, and that the Peshwah might be induced to interfere in his behalf, so he (Gokla) determined to put it beyond the power of money to rescue such delinquents.

I shall finish this sketch of the Poorundur Ramoossies, by merely

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they were guilty of roused the wrath of some Arabs in the service of the Preethy Nidhy, who begged to be permitted to resent the insults the Ramoossies had offered to them. In the course of a short time, by exhibiting false sunnuds and offering services, &c. to the Naiks, they were induced to disperse the greater part of their followers and to remain quiet; however at the termination of five or six months, when they had been lulled into security, they were unexpectedly seized and blown from guns. Hybutty Naik, one of their number, was absent at the time, and when he heard of the sad catastrophe which had befallen his brethren, he fled and took refuge with a powerful and influential Jageerdar.

When Gokla seized the Preethy Nidhy, a female favorite of the latter, who had lived under his protection a number of years, fled to the fort of Wurdungar accompanied by a considerable body of Sibundies. She for many months baffled all efforts made to capture her. Hybutty Ramoossy supposed that it was at the instigation of this heroine, that his relations had been put to death, and it was suggested by the Peshwah's Government to employ Hybutty to capture the pretty and heroic Telin. Upon Hybutty approaching the fort, this lady contrived to bribe some of his followers. A house in the village of Chanddeo was filled with kurby or straw, and after Hybutty was persuaded to ascend the hill to attempt to carry the place by escalade, the garrison sallied forth and pursued Hybutty's men to the village. One of his treacherous friends suggested to him to occupy the large building (in which the straw was) as a place of security. When the Ramoossies entered the building, the straw was set on fire. Several persons were burnt. Hybutty was caught and subsequently blown from a gun, and many of his followers cruelly put to death by the Telin's orders. She was the wife of a Tely, or oil maker; the Preethy Nidhy was of the Brahmun caste; he is now residing on his estate south of Satara.

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adding an account of a considerable loss sustained by a rich Parsee banker, named Doorabjee who was chiefly employed by the British troops around Poona, during and subsequent to the late war. In the month of July 1818, when order had been restored in the Dekhan, this banker forwarded from Poona to his agent at Satara the sum of 16,000 rupees, in charge of two peons. The money was placed upon four tatoos, and a man accompanied each. Five days afterwards, he dispatched a further sum of 20,000 rupees to Satara. When this latter sum reached his correspondent, he acknowledged the receipt, but mentioned that the sum of sixteen thousand, which he had alluded to had not reached him. Several persons were immediately sent off on receiving this information to discover what had become of the peons and the treasure they had charge of. They traced the party to Jejoory, and learnt that they had slept at a Gossynes Muth the night they halted at Jejoory, and pursued their journey early the following morning, but nothing could be heard of them beyond this. The men searching for information went to the Neera bridge, where a Karkoon and a strong detachment of Sibundies were stationed; when they were questioned on the subject, they stated that no men or horses answering the description given, had approached the bridge, or been heard of by them. The circumstances being reported to the Collector, he immediately adopted such measures as were likely to discover what might have happened to the party, or where they could have proceeded to; notwithstanding the active search that the Collector caused to be kept up for about a year, not the slightest clue could be laid hold of to enable him to learn what had become of the money or the persons who had charge of it.

The Poorundur Ramoossies were suspected of having had a hand in making away with the money, and as they were pressed hard on this point, they wished to attach blame to the Poona Ramoossies, and those along the plain north of the Allundy hills. With this view, some of them went to Wurky, and dug up the bones of some Ramoossies that had been buried in a field near the village; these they conveyed to the Collector, who was some distance to the north west of Poona, stating that they had gained intelligence of the bodies of several persons having been buried in the fields, and that they now placed the bones before him. The Collector however was too intelligent to be imposed on by such a device; for the bones were much too old, and besides, the relatives claimed them as those of their fathers, uncles, and brethren.

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Shortly after this the Ramoossies at Poona became extremely troublesome, committing robberies constantly in the houses of the European gentlemen residing there; for the protection of their property, it was therefore deemed absolutely necessary to employ Ramoossies to watch their houses during the night. Almost every officer in the place had one of these men in his service, receiving seven rupees monthly pay. Having thus succeeded in levying black mail from their European masters, the Naiks in charge of the Ramoossy police found it advantageous to engage persons of other castes to act as watchmen on such occasions as their services were called for. By this arrangement, many of the Ramoossies could follow their accustomed avocation of pillaging in Poona and the surrounding country, as opportunities offered of doing so. It is common now to see Mangs, Dheres, and Koonbies, &c. performing the duties of watchmen, and who consequently style themselves Ramoossies.* This is also the case at Bombay.

Annajee, the Ramoossy Naik, who has been for several years in charge of the police of the cantonment at Poona, has been lately convicted before a Court Martial, of having connived at a robbery that was committed last year in the lines of His Majesty's 4th Dragoons, and has been sentenced to pay a large fine, besides being imprisoned for ten months. Annajee received fifty rupees pay monthly: there were one, or two other sources from which he increased his income.

What is worthy of notice respecting the proceedings of these people in latter times, will be included in the sketch purposed to be annexed, of the life of the Ramoossy chief Oomiah Naik, who was regarded by his tribe, as the pride of Poorundur, and the terror of Poona and Bhore.†

The Ramoossies in the Satara territory were guilty of committing many outrages in the years 1828 and 1829. The Rajah's authorities having apprehended a number of them, between thirty and forty were executed in the latter year.

* In this manner every native of India on the Bombay Establishment who can write English, and is employed in any office, whether he be a Brahmun, Goldsmith, Purwary, Portuguese, or of English descent, is styled a Purvoe, from several persons of a caste of Hindoos termed Prubhoe having been among the first employed as English writers at Bombay.

† The capital of the Punt Suchew's country and 32 miles south of Poona. It was Oomiah's persisting in claims against the Punt Suchew that chiefly caused the late disturbance at Poona.

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HOLGAH RAMOOSSIES.

Some little notice is required to be taken of the Ramoossies north of the Bheema, and along the banks of the Seena river in the Ahmednuggur Collectorate. These are termed Holgahs by the Poorundur Ramoossies, while the latter are termed Bhakah by the Holgahs. These appellations appear to be some designations of reproach, as they give offence to each tribe respectively.

The Poorundur Ramoossies state that the Holgah is the offspring of a member of their tribe, who formed an intimacy with a female of the Hollaar caste, who are a people inferior to the Ramoossies, and that the descendants of this connection, adopted the name of Holgah from the mother. That they do not retain the sendy, or tuft of hair on the crown of the head, (a much respected mark of distinction among the Hindoos,) and that the kurdora or string always bound round the loins by the natives was made of leather. The Holgahs deny this being the case. They say they wear a cotton or silk thread round the waist, and preserve the tuft of hair on the crown of the head, and they moreover add, that there is no truth in the story of their origin as related by the Bhakahs. They are of opinion, that their forefathers came from the Karnatic (country south of the Kishtna) and I am disposed to think, that their ancestors must have come from the country around Dharwar. The Holgahs have the remnants of a language among them, which would lead us to suppose that they had emigrated from a country where the Kanarese language is spoken.

The following is a specimen of it :—

A Man, Arriah	An Old Woman,† Mootky
A Woman, Henguss	A Village,† Oorrh
An Old Man,† Modka	Night,† Kullah
Day, Houtt, Water, Nirl	A Thief, Kulluh
A Stone,† Kull	A Horse,† Koodry
A Sword,† Kutty†	A House,† Munny
Bread, Moork†	A Cow,† Akull
The Head,† Tellah†	Bullock,† Dunnaah
The Foot,† Kalluh†	Holgah, Bhoir

The words marked with the cross are, I am informed, of the Kanarese language. They assimilate also to words in the Malabar tongue as spoken at Madras. It may be observed, that there are no good grounds for concluding that the Holgahs have sprung from the Hollaars; between the surnames of the latter and the former no analogy exists. The Hollaars are divided into seven families, and the Holgahs into thirteen, namely, the Kurradah, Pandrah, Boitah

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Peetah, Pole, Khunduglah, Dhoullah, Shendeh, Ghalgheh, Mudneh, Wagmorih, Shellar, and Khuvoureh, and these all intermarry with each other. The people swear by the leaves of the Toolsee, and not by the Bel, as the Bhakah Ramoossies do.

There is a tradition in the Poorundur district, that the Holgahs were originally the watchmen of the villages in that part of the country, but that they were gradually displaced by the ancestors of the Ramoossies at present there. A few Holgahs still retain the Rukwalldarship of some villages in the Indapoor purgannah south of the Bheema river. I have before stated that the number of Holgahs above the age of sixteen years in the Ahmednuggur Collectorate amounted to 203. I have been informed that about the year 1785, two Holgah Ramoossies Essoo, and Hybutty of Pairgaum had served a number of years as horsemen with Mhadjee Sindiah's army, and having amassed a considerable sum of money, they accompanied Mhadjee Sindiah to Poona, where they made great exertions to get admitted into the Ramoossy caste (the Bhakahs). They contrived to assemble ten, or twelve of the Ramoossy Naiks around Poona, and Poorundur, and entreated of them to receive them into their tribe; making them an offer of several thousand rupees at the same time, to induce them to acquiesce in their petition. However, the few Naiks that were assembled, could not give their consent to the proposed arrangement. The Holgahs possessed Mhadjee Sindiah's favour, and upon the strength of this influence, they menaced the Naiks with threats, and the adopting coercive measures to compel them to agree to their proposals; upon this, the Ramoossy Naiks took up the question warmly, declaring that on no account, or for no consideration would they ever receive them as brethren, and look upon them as members of their families.

The Holgahs will not partake of food prepared by the Bhakahs, nor the latter of that of the former; neither of them will eat victuals prepared by the village washerman, the oil maker, the smith, carpenter, and several of the other lower grades of the Hindoo community.

They appear to differ in no respect from the other Ramoossies with regard to character, or pursuits. To prove that they have been troublesome to the Government, I have only to relate the following account of the proceedings of the Pairgaum Ramoossies some thirty years ago. These were the sons of Essoo and Hybutty before mentioned.

The Ramoossies along the banks of the Bheema river were very

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troublesome in the year 1802; several of them were caught and sent by Sindiah's authorities to be imprisoned in the fort of Ahmednuggur. At Pairgaum there was a Ramoossy named Bhoany, who had about twenty horses employed in Sindiah's pagah, and to whom Mhadjee Sindiah had shown some consideration on account of services he had performed. Among the prisoners in confinement at Ahmednuggur, when the fort surrendered to Sir Arthur Wellesly in August 1803, were two cousins of this Bhoany's, named Narroo, and Runggoo, Sindiah's commandant and soobadar Mullabah Dada, set the prisoners at liberty. Mullabah subsequently proceeded in the direction of Rasseen, but some valuable jewels, shawls, and treasure, (the plundered property he carried off with him,) fell into the hands of a body of Pindarries at Chamargoondah in a rather singular manner. Shortly after this, Mullabah, having collected some followers, commenced plundering the country around Rasseen. Captain Graham the Collector of the district of Ahmednuggur exerted himself to capture Mullabah, but this was not to be effected; however when the district was restored to Sindiah, his Mamlutdar Esswunt Row Ghorpora began operations against Mullabah Dada, yet no prospects of success attended his exertions, and in consequence Esswunt Row determined to employ the Ramoossies in pursuit of this plunderer; on this account the three Naiks, Bhoany, Narroo, and Runggoo were taken into pay, with a considerable number of their kinsmen and some Sibundies.

The lower orders of the population, were overwhelmed in distress at this period, in consequence of the dreadful famine that had prevailed, and the Ramoossies and their followers, instead of acting against the rebels, that were disturbing the tranquillity of the country, began themselves to levy contributions from the inhabitants, and shortly afterwards plundered in all directions, committing the greatest outrages, violating the women and keeping females of all castes in their houses. The Naiks used to have a Brahmun to expound the shasters to them, and they employed a Mussulman to explain the koran. They dressed after the fashion of the Brahmuns attending minutely to their mode of ablutions, and worshipping their gods daily at the stated times. Esswunt Row was now completely at a loss how to set to work to restore order, and to punish these delinquents, for all the attempts on his part to apprehend them had failed. He at last resolved on calling in the aid of his friend Amur Singh of Pairgaum who had charge of that district, in order to carry into execution a scheme he had concocted for destroying the

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ringleaders of the band, or insurgents. He fully communicated his scheme to Amur Singh, and obtained his assent to exert himself to accomplish the object they had in view. A rumour was now to be circulated that Amur Singh was for various reasons to be dismissed from office, to be accused of peculation, and want of energy in his administration, &c. that he might shortly expect his dismissal, and who were better calculated to take charge of the district, and protect it from all external enemies than Bhoany Naik and his cousins, from their known talents and energy of character. The various atrocities they had committed were not all to be credited, and what they had done, must have been at the instigation of evil disposed persons. A letter conveying Amur Singh's order of dismissal was in due course of time received by him; and another letter containing a commission was forwarded to Bhaony and his cousins, who were required to look minutely into the accounts of the district. It was necessary that Amur Singh should prepare an account of his receipts, and disbursements, and hand over charge of his office publicly to the Naiks; then they would grant him the usual receipts. The three Ramoossy Naiks repaired to the village kucherry (or court) accompanied by a large body of their followers for the purpose of assuming charge of their new appointment. All Amur Singh's* adherents were assembled, and on the alert, besides many of the inhabitants were present to hear the new commission read. Amur Singh was lounging against the pillows close to the village koolkurny, and the villagers all arranged on one side. When the Naiks were listening to the koolkurny, three of Amur Singh's relations standing at the further end of the court levelled their matchlocks at the three Naiks; two of the guns went off, and Bhoany and Runggoo were shot dead on the spot, but the third burnt priming. Narroo instantly sprung up to run off, but Amur Singh struck a severe blow at him which nearly severed his shoulder from his body; he succeeded however in running outside and was immediately afterwards cut down. When the Naik's followers (about one hundred men) Rajpoots, Moossulmans, Ramoossies, and Mangs, learnt that the Naiks had been attacked, they rushed towards the entrance of the kutcherry to rescue their friends. Amur Singh had however adopted precautions to guard against such a surprise; ten of the followers were killed, and the rest fled, and tranquillity was restored in the district.

* Amur Singh died a few years ago and his two sons Bappoo and Cheemun Singh were the chief instruments employed to persuade the Ramoossies to seize Oomiah Naik.

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The sketch I have here attempted to give of the history of the Ramoossies might be considered incomplete without an account of their marriage rites, and these, although the subject may prove somewhat tedious and uninteresting, I shall now endeavour to explain. In the hope of imparting to it a character of greater interest, it will be as well to illustrate the principles of that portion of their judicial astrology which immediately applies to these ceremonies.

The overpowering influence which the illusive system of Judicial Astrology, and the worship of the host of heaven, placed in the hands of the Brahmun priesthood, has always enabled them to exercise a most profitable, but at the same time, a most pernicious sway over the other classes of the Hindoos.

The many sacrifices and offerings, required to be made on the occasion of performing the prescribed rites, and ceremonies connected with the nativity, marriage, and death of a Hindoo, whether of the most pure or the inferior tribes, besides the innumerable duties exacted of them, in connection with their spiritual and temporal interests through life, seem to be nothing more or less, than a criminal imposition practised upon the people by the crafty priesthood, which has produced much misery and wretchedness among them, and the malign influence of which is unceasing.

It is very well known, that the ceremonies of espousal or betrothment among the Hindoos, as well as those of their nuptials are celebrated at a very early age, invariably long before pubescence. The rules to be attended to, relative to these matters, are very minutely but perplexedly described in their writings.

The expense that is incurred in celebrating these ceremonies, or I should more properly say the imprudent prodigality in which the parents of the children indulge on these occasions although at the time gratifying to their vanity, is even to many of those that may be accounted wealthy a source of subsequent regret, and to such as possess large and dependent families, it is but too frequently the cause of lasting misery.

In this extravagance, they seem prompted by a species of false pride (a feeling which appears to have become engrafted in their nature) or an absurd desire to make such a show which they consider necessary to uphold, not only their own credit, but also that of their ancestors. To effect this, they not uncommonly (I mean the poor, whether they are of the Brahminical or other castes) expend whatever ready money they may have in hand, frequently the hard earned fruit of many years labour; moreover, they will deem it necessary to pledge some of the golden ornaments of their females,

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or to mortgage part of their dwelling house or the land they hold on the meerassy tenure to raise funds for this purpose. There are instances also of persons of the lower classes (I have known instances of poor Brahmuns) who may have attained the prime of life without having been married, owing to the poverty or death of their parents, who borrowed money to enable them to enter into the matrimonial state. To redeem the obligation they have thus rendered themselves liable to, they enter into an engagement to serve the person who accommodated them with the loan for a certain number of years, at a fixed rate of wages, the creditor in the interim merely providing them food and clothing.

The task of explaining the abstract of their system of Judicial Astrology here applicable, will, I fear, be found to be very imperfectly executed and undeserving of any notice; as being nothing better than puerile trash, the meshes of its mysterious net being only calculated to enthral the minds of an enslaved and superstitious people for whom it was formed.

(To be continued.)

II.—*On the state of Slavery in Southern India by A. D. Campbell, Esq. M. C. S.*

(Extracted from Appendix to Report from Select Committee on the affairs of the East India Company.)

In the territories under the Madras Government, slaves are of two distinct descriptions: the one includes the great slave population termed "agrestic slaves" or such as are usually employed in the field, though occasionally also in other labour. These consist exclusively of Hindoos, who become such by birth alone, in the peculiar castes which the usage of India has doomed to hereditary bondage. This species of slavery does not exist at all in the central provinces of the Indian peninsula, such as the Ceded Districts, or Mysore, peopled by the Carnatacka nation; and I believe it is also unknown in the Northern Circars, Nellore, &c. or in the country where the people speak the Telinga language; but it is common in the Southern provinces of the peninsula, or wherever the Tamil language is spoken, and it assumes its worst form on the western coast of the peninsula, or in the provinces of Malabar and Canara. The other description of slaves consists of those who may be termed domestic, from being employed only in the house itself. This kind of slavery may be found all over the Madras territory, but it is

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exceedingly rare. Individuals generally become domestic slaves by being sold when children by their parents, in years of scarcity approaching to famine; for famine itself, in the British territories, is happily now nearly unknown. A Hindoo, however, who buys a child on such an occasion, treats it as a Briton would; not as a slave, but rather as a servant to whom food and raiment are due, and whose wages have been advanced to maintain the existence of the authors of its being, authorized by nature to contract for its service until it is old enough to confirm or cancel such compact. The text of the Hindoo law, as well as its practice, clearly maintains such compacts to be temporary only, for it expressly mentions the gift of two head of cattle as annulling them, and entitling the child to legal emancipation; but such fine is entirely nominal; it is never practically exacted; and on the child attaining maturity it is, in practice, as free amongst the Hindoos as amongst Britons, unless long habit or attachment induces it voluntarily to acquiesce in a continuation of its service. The Mussulman law acknowledges the legality of treating as slaves all infidels conquered by the faithful; but its text is entirely opposed to the purchase of free children for the purpose of reducing them to a state of bondage; yet, in practice, compacts such as are described above, confer permanent rights on the Mahomedan purchaser; for, under the spirit of proselytism which characterizes the Mussulman faith, a male infant is no sooner purchased than it is circumcised; and, whether male or female, it is invariably brought up in the Mahomedan creed, which, if it be a Hindoo (as is usually the case) irrevocably excludes it from all return to its parents or relations. Besides the purchase of children in years of scarcity, I have heard of natives, to cancel a debt, voluntarily selling themselves as domestic slaves for a certain number of years, but this is unusual; and though classed as a species of servitude, it more resembles that of persons serving under written articles in Europe, than slavery of even the most qualified description. There can also be no doubt that children are sometimes kidnapped and sold as slaves, without the knowledge of their parents. As superintendent of Police at Madras, I succeeded in 1818 in restoring several such children to their parents, amongst the lowest and poorest of the Hindoos; and their anxiety to recover infants, whom they in all probability found it very difficult to support, would have done honor to the highest classes of European Society. I may add, that from Malabar, a province on the western coast of the peninsula, where the ancient institutions of the Hindoo government have

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descended to our own times nearly unimpaired, I recollect one trial having come before the Sudder Foujdary Court in 1830, in which the members of a high-caste Hindoo family, to conceal the disgrace to which they would have been exposed from retaining one of the daughters whose chastity was more than suspected, forcibly carried her off to a distant province, where they were taken up, on account of endeavouring to dispose of her as a domestic slave.

In the Madras provinces, it is the collectors and magistrates alone who can give any correct returns of the population. In the Bellary division of the Ceded Districts, where I first held that situation, I have already stated that no agrestic slaves whatever exist. In Tanjore, on the contrary, they amount to many thousands; but I cannot, from memory, give any correct estimate of their number. The house or domestic slaves in neither district can exceed one or two hundred, in a population of above a million of souls, in each of these provinces respectively.

There is no doubt that the Hindoo law recognizes slavery, domestic as well as agrestic, though practically amongst the Hindoos under the Madras Presidency, domestic slavery, as before explained, can hardly be said to exist, except as regards female children, occasionally purchased by dancing women, for the purpose of bringing them up to their own unhappy profession of prostitution, or the dancing women themselves, attached to the several Hindoo temples. I have already stated that the Mussulman code, though opposed in its text to the reduction of free Mahomedans to a state of bondage, not only recognizes and sanctions, in practice, slavery in general, especially that of conquered infidels, amongst whom it may fairly include the Hindoos, but encourages domestic slavery in particular, especially by the purchase of children, in order to increase, by their conversion, the number of the faithful. Notwithstanding the modification of the Hindoo and Mahomedan laws respecting slavery, recommended in the papers on that subject printed by order of the House of Commons, I am sorry to state that the Government of Madras have hitherto left them entirely unaltered by any enactment of their own. At the close, indeed, of the papers in question, notice is taken of a former enactment by the Government at Madras, contained in clause 14, Section 18, Regulation ii. 1812, prohibiting the exportation of slaves from the province of Malabar: but the result of the reference mentioned to have been made to the Advocate general, was the formal repeal of that enactment, on the just ground that the Act of Parliament of the 51 Geo. 3, c. 23, against the slave trade, sufficiently prohibits

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this traffic by sea, and that its more severe penalties supercede those formerly established by the local Indian legislature. As connected with this subject, however, I may be here permitted to point out, that in any future Act of Parliament on the subject of India, a modification of the Slave Act above mentioned is imperatively called for. Offences against it, by traffic in slaves by sea, may take place in any part of the extensive coast, either on the Coromandel or on the western side of the peninsula, under the Madras Government, and by natives of distant provinces many hundred miles from the Presidency. The removal of such persons, with the witnesses on either side, from their own peculiar climate, as for instance, from Malabar to Madras, would be attended by an inevitable mortality, similar to that of Europeans, if sent for trial to the deadly climate of Sierra Leone: yet the Slave Act makes all offences under it, even when committed by natives in the provinces, cognizable only by the distant Admiralty, or King's Supreme Court of Judicature, confined to the Presidency itself, to the criminal jurisdiction of which they are otherwise not amenable. The local provincial courts, possessing power of life and death in matters of the highest criminal jurisdiction, ought, as regards a breach of the Slave Act, by natives in the interior, subject to their jurisdiction, to have power concurrent with that of the King's Court of Admiralty; for to carry into effect the law as it now stands in this respect, would, in such cases, be no less inhuman than revolting to the prejudices of the people. Indeed, like all laws at variance with the feelings of the people, the Slave Act, as it now stands, must remain a dead letter every where in the Madras territory, except at the Presidency, until Parliament give power to the tribunals in the provinces to enforce its penalties. In doing so, however, the punishment to be annexed to the breach of its provisions in the provinces should be proportioned to the punishment for other offences in the interior. Death is there the punishment of murder alone; transportation is the next grade of punishment, but never takes place except for life, on account of the great civil forfeiture of caste, by which, in India, it is ever attended; and confinement in fetters, or hard labour, for 14 and seven years respectively, alone are the punishments equivalent to transportation from England, for these several periods.

In regard to food, clothing, employment, treatment and comfort, there exists the greatest contrast between the domestic and agrestic Slaves in the territories under the Madras Government. The domestic slaves, confined principally to the Mahomedan families,

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being brought up invariably in the creed of their master, are at once amalgamated with the family itself, who treat the males indulgently, with somewhat of that privileged familiarity allowed in all countries to those who are permanently attached to a family, and are rather its humble members by adoption, than its servants or slaves. They are well fed, well clothed, and employed in domestic offices, common, except in familes of the highest rank, to many of their master's relatives. The free communication with others, and facility of access to the British tribunals, which the want of all restraint over egress from the house, ensures to the male domestic slaves, combines with the indulgent treatment of their masters to qualify their bondage, so as nearly to exclude it from what the term slavery implies. Such, however, is not the lot of the female domestic slaves, employed as attendants on the seraglios of Mussulmans of rank: they are too often treated with caprice, and frequently punished with much cruelty. Once admitted into the haram, they are considered part of that establishment, which it is the point of honor of a Mussulman to seclude from all communication with others. The complaints made to me as superintendent of Police at Madras, against the Nabob of Arcot, and subsequently, when magistrate of Bellary, against the brother of the Nabob of Kurnool, gave me an insight into transactions committed in the recesses of the female apartments of these two personages, which has left on my mind a strong impression of the cruelty and wanton barbarity with which this class of female slaves are subject to be treated. The murder of more than one female slave, alleged to have been committed by the brother of the Nabob of Kurnool, induced me repeatedly to address the Madras Government; nor was it until he added to them the murder of his own wife that he was confined as a state prisoner, instead of being brought to trial for his life, as I suggested. Indeed little doubt can be entertained that the seclusion of female slaves in the harams of Mussulmans of rank, too often precludes complaint, prevents redress, and cloakes crimes at which Europeans would shudder. The agrestic slaves, on the other hand, are invaribly Hindoos of the lowest and most degraded castes, such as the Pullers, or outcasts altogether, such as the Parriahs in the Tamil country, residing usually in the out skirts of the village; food dressed by them being abomination, and their touch defilement to their masters. In Malabar, indeed, the master is attended, wherever he moves, by an imaginary halo; for the distance which the slave must keep from any of the pure castes including the lowest, or Soo-

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dra, is defined with extraordinary precision, by local rules, which in the southern part of the province are exceeded in practice. This removal of the agrestic slave from the dwelling and person of the master, which the wide difference established between their castes induces, whilst it no doubt tends to relieve him from the ill usage to which the personal character of a violent Mahomedan master may sometimes expose the domestic slave employed in the house, at the same time deprives him of that habitually indulgent treatment which a constant interchange of household duties seldom fails to produce, especially on the part of the milder Hindoo. The food, clothing and comforts of the agrestic slave are, in consequence, every where inferior to those of the domestic one. In the Tamil country, the agrestic slaves are entitled to certain proportion of the harvest reaped on the land they cultivate, and to prescribed fees in grain at each stage of the previous cultivation, as well as at certain national festivals. Some of them who are outcastes possess also a right to all the cattle which die from disease; and they eat the flesh of such animals, as well as that of snakes, and other reptiles: but in general their food is the coarsest grain; and if a judgment may be formed from their appearance, which is generally that of stout athletic men, it is not deficient either in quantity or quality. Their clothing indeed, is scanty, but not always from defect. When I first went to Tanjore, I found, in the spring of the year, most of the fields occupied by the female agrestic slaves, transplanting rice, generally to the tune of some popular air, sung by one of them, in the chorus of which the rest joined; and was surprised to find that these women left the whole of the body, from the waist upwards, naked, the bosom being invariably exposed. Attributing this to the want of sufficient clothing, I employed myself in investigating measures calculated to increase its supply, and thus prevent a breach of the natural rules of modesty common to civilized life; but I found that, like certain classes of Hindoo females on the western coast, covering the bosom, in the minds of this caste, is considered equivalent to a declaration of prostitution itself: fear, therefore, of a greater moral evil, obliged me to abandon my intention of attempting any change in this revolting custom. Besides food and clothing, the master also defrays the expense of the marriage of his slaves, and in the Tamil country presents them with small gifts on the birth of each child. The description of the agrestic slaves given in my reply to this query, is confined to the Tamil country; my personal knowledge being derived from that portion of it which consists of the fertile province of Tanjore. I must add, that the landed tenures on the Coromandel

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coast, which vest most of the land, and of the agrestic slaves who cultivate it, in the hands of corporate village communities, and of Hindoo temples, or other bodies, instead of in the hands of individual land-owners, as on the opposite coast, contributes materially to the superiority of the agrestic slave on the eastern coast over his unhappy brethren on the western side of the peninsula; for from the official reports that have come thence before me, both in the Revenue and judicial departments, I know that agrestic slavery assumes there a far worse aspect, particularly in Malabar. The creatures in human form who constitute, to the number of 100,000, the agrestic slave population of that province, being distinguishable, like the savage tribes still to be found in some of the forests of India, from the rest of the human race, by their degraded, diminutive, squalid appearance; their dropsical pot-bellies contrasting horribly with their skeleton arms and legs, half starved, hardly clothed, and in a condition scarcely superior to the cattle they follow at the plough. I am by no means satisfied that due provision is made for the support of agrestic slaves, in sickness or in old age. Their masters are no doubt bound to support them; but, in the absence of any summary means on the part of the civil magistrate to enforce this obligation, I fear the poor and infirm slave is too often left to the slow and doubtful remedy of a law-suit against his master, or to the uncertain charity of his brethren, stinted in their own means.

The agrestic or field slaves in the Tamil country are employed by their masters in every department of husbandry: the men in ploughing the land and sowing the seed, and in all the various laborious works necessary for the irrigation of the land upon which rice is grown; the women in transplanting the rice plants, and both sexes in reaping the crop. Their labour is usually confined to the rice, or irrigated lands: the lands not artificially irrigated, watered only by the rains of heaven, and producing what in India is technically termed dry grain, being seldom cultivated for their masters, whose stock is concentrated on the superior irrigated soils; and any cultivation by the slaves in unirrigated land, is generally as free labourers for others, or on their own independent account. In Tanjore, the liberality of one of my predecessors, Mr. Harris, now member of Council at Madras, induced the Government to attach to each house of the slave, in common with the other householders, who are not land-owners, a small piece of land as garden, tax free. The agrestic slaves work in bodies together, the village accountant registering the work executed by them, which he inspects; but they are not personally superintended by any one, nor placed under any

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driver: they usually work from about sunrise until sunset, with the intermission of a couple of hours for their meal, during the middle of the day. They are not exempted from work on any particular day of the week, but obtain holidays on all the great native festivals, such as on those fixed for consecrating implements, the new year and other great days. No particular task-work is assigned to them daily; it is sufficient that the slaves of each master execute the work necessary for the cultivation and irrigation of his lands. These slaves are also often employed in erecting temporary rooms or pandols, used by their masters on marriages or other festivals; and occasionally are called on, by requisition of the collector or magistrate, issued to their masters, to aid in stopping any sudden breach in the great works of irrigation conducted at the expense of Government, or in dragging the enormous cars of the idols round the villages or temples, to move which immense cables, dragged by many thousands are necessary: in Tanjore in particular, from the great number of the temples, and frequency of the festivals, this is a very onerous duty. The lash is never employed by the master against his slave in the Tamil country, but it is in Malabar; and its legality, under the Mahomedan law, has been recognized by the Sudder Foujdary Court; though violence and cruelty on the part of the master are also punishable under it. I have ever been of opinion that the master should be altogether deprived of such power in India; and that, if exercised at all, it should be transferred to the public local officers.

All slaves in India are under the protection of the law; masters cannot take their lives, without incurring the penalty of murder. They are perfectly competent witnesses in all cases, civil and criminal, whether against free men or others; but I do not think that the civil magistrate has sufficient summary power to interfere for their due protection.

The view I take of agrestic slavery in the Tamil country, corresponds much with the relation stated in the question to have existed between villains and their masters, during the later period of villainage in England. Thus a parriah, the slave of his land-lord, may, with his permission, enlist in the army as a native soldier, or in the service of an European gentleman, as a servant (and many have done so without their permission), exercising all the rights of free-men. Indeed, even if he remains with his master as a slave, I apprehend that, as regards all acts between him and strangers, he possesses the same rights as free men; but these can be pro-

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perly secured to him only by an enactment of the local Indian legislature, whose silence involves such questions in doubt.

The agrestic slaves, in the territories under the Madras Presidency, are not necessarily transferrable with the land itself; but in the Tamil country they are almost invariably transferred with it. From this being done, either in a deed separate from that disposing of the land alone, or without any deed at all, a few of the local authorities, from imperfect inquiry, have been led to question the fact, which is notwithstanding broadly stated by others; but I entertain none of the general practice. On the western coast, the slaves, on the contrary, are often disposed of independently of the land. The cause of this difference may be traced to the local peculiarities distinguishing the opposite coasts of the peninsula.

Under the Madras territories, nearly all the domestic slaves are Mahomedans. In the Tamil country, the agrestic slaves generally are worshippers of Shiva, the destructive power of the Hindoo triad, under the form of one of the female energies of that deity, represented often by the village goddess. Several of them, however, are Catholic, and a few Protestant christians; for I recollect, in Tanjore, objections being raised by the missionaries to their employment in dragging the Hindoo idol-cars. The omission of the magistrate to enforce the attendance of any slaves on this duty, in a neighbouring province, greatly impeded the Hindoo festivals, and created a religious enthusiastic hostility dangerous to the Government, which nearly broke out into open rebellion. Orders were therefore issued to cause their attendance as usual. I was consequently unable to relieve any particular class of the slaves from this part of the long-established civil duties common to all, and told the missionaries that such as from conversion entertained religious scruples against it, should find substitutes, or get their masters to send others in their stead; and that, at any rate, I should overlook their absence, unless the matter came officially before me, by the stoppage of any of the established Hindoo festivals, and their masters calling on me to enforce their attendance, which I should do only after proof of its ancient and established usage. On the western coast, I fear it will be found that the slaves generally propitiate the evil spirit alone, and many of them are believed to practise sorcery.

With respect to the sale of slaves, I do not think that domestic slaves are ever sold; indeed I doubt whether such slaves are legally transferable under the Mahomedan law, which,

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as this particular description of slaves exist only in Mussulman families under the Madras Presidency, seems the only code there applicable to them. But the sale of agrestic slaves is common. They may be sold for the debts of their master; but in the Tamil country, the removal of them from their village, and consequently from their families, would be contrary to ancient usage or Indian common law; and hence the practice of transferring them with the land when it is sold, which, though not necessary in law, is in the Tamil country almost invariably the practice. On the western side of the peninsula, on the other hand, the people, except immediately on the sea coast, are no where congregated in villages. Each land-lord there is resident on his own estate, and the slaves may be removed from one estate to another, however distant. I have long considered it desirable, as regards the slaves on the western coast, that the Government of Madras should pass enactments similar to those contained in the Bombay code, which provide that infants shall not be separated from the mother until a certain age: and, I think, also prohibit the separation of the wife from her husband.

There is no enactment of the British Government, under the Madras Presidency, either to hinder or to promote the manumission of slaves. Children bought as domestic slaves, under the Hindoo law, may purchase back their freedom; but I have already stated that, on attaining maturity, it is usually conferred on them without purchase; and that, whatever may be the text of the Mussulman law, the conversion of such children to the Mussulman faith, by their Mussulman masters, renders restoration to their families impossible; nor, under the indulgent treatment of the males, is it perhaps desired by them. Their female domestic slaves are seldom made free; but if they have children by their master, such progeny is free; and the children of a male domestic Mussulman slave, married to a free woman, would I think be exempted from bondage. With regard to agrestic slaves, I never heard of any instance of manumission. In the Tamil country they occasionally desert their masters, and thus acquire their freedom; otherwise their children are doomed to hereditaty bondage.

During the 22 years that I resided in India, or since 1808, no material changes have taken place in the condition of the slaves, in the territories subject to Madras.

I am not aware that any measure has been adopted by the Government at Madras, either to abolish or ameliorate the state of slavery on that part of the continent of India which is subject to their domi-

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nion, unless the prohibition to sell slaves for arrears of revenue due to them, contained in my letter as Secretary to the Board of Revenue of the 23d December 1819, be considered of that description. The existence of British rule, the principles of which are hostile to all restraint on liberty, and the maintenance of such principles in the local code of laws passed since 1802, by the Government of Madras, for the internal rule of their provinces, without any enactment on the subject of slavery itself, have no doubt, tended to check many gross abuses, previously practised under the native governments, by masters towards their slaves. The vicinity of some of the Tamil slaves to the Presidency itself, where the existence of the British code, renders slavery altogether unknown, and the facility with which some have taken refuge there, and entered into the service of Europeans, and even into the native army, combined with the circumstance of most of the Tamil slaves belonging to a village community, rather than to individuals, and with the ancient usage or common law against their removal from their native village, have perhaps raised them above their brethren on the other coast; but much remains still to be done, to improve the condition of both.

In my replies to the foregoing queries, I have given all the information I possess with respect to facts connected with slavery in India.

I have ever been of opinion that British policy ought to be directed, not only to the immediate practical amelioration of East India slavery, but to its ultimate, though gradual abolition.

In drawing up the Minute of the Board of Revenue of the 5th January 1818, whilst I pointed out the injustice of interfering with the private property which masters possess in their slaves, and the danger of too suddenly disturbing the long-established relations in society subsisting between these two orders, I induced the Board to call for information, from the several provinces, for the purpose of defining by a legislative enactment the power to be exercised by masters over their slaves, and thus preventing abuse or oppression; and with respect to those on the western coast in particular, a legislative enactment was suggested, to prevent their being removed against their will from the place of their nativity, or being exposed to sale by auction, in execution of decrees of court or in realization of arrears of revenue. In my subsequent letter of the 23d December 1819, the practice of selling slaves for arrears of revenue was directed, by the Board of Revenue, to be discontinued, in the only district under the Madras Presidency where the practice had occurred; and in laying before the Government, on the 13th December,

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their proceedings of the 25th November 1819, with the information which had been received from the provinces, that Board, at my suggestion, proposed that, by an enactment of the Madras Government, it should be declared, first, that the purchase of free persons as slaves should be illegal, and of course subject to penalties; secondly, that the children of all slaves, born after a certain date, should be free, contemplating of course a registry of slaves, and of their children born previously to such date; thirdly, that voluntary contracts to labour for a term of years, or for life, should bind the individual alone, and not his wife, nor children after the years of discretion; fourthly, that, slaves should be competent to possess, and dispose of their property, independently of their master; fifthly, that the purchase of children to be brought up as prostitutes, should be subjected to special penalties; sixthly, that the local civil officers should by a summary proceeding, have power to cause masters to provide wholesome food and decent clothing for their slaves, and to prevent their neglecting them in sickness, age or infirmity; seventhly, that the power of corporal punishment should be transferred from the masters of slaves to the local civil officers; eighthly, that slaves bought by their masters should, by repayment of the purchase money, recover their liberty; ninthly, that all slaves attached to lands or estates escheating to Government should be declared free; and tenthly, that slaves, on being ill-treated by their masters, should be allowed to claim the privilege of being sold to another; and that the breach of any of these rules by the master, should, at the option of the slave, entitle him to liberty. It was also recommended, that the share of the harvest granted to the agrestic slaves in the Tamil country, should be augmented at the expense, not of their masters, but of the Government itself.

Having soon afterwards left Madras for duties in the provinces, the fate of these suggestions remained unknown to me, until my attention was recalled to the subject by the receipt of your letter, enclosing the queries under reply; when, on reference to the papers on Indian slavery, printed by order of the House of Commons, I perceived that, by the Madras Government, they were merely "ordered to be recorded."

A *vis inertiæ,* hostile to all change, seems inherent on the local Governments of India, imbibed perhaps from the people subject to their rule, whose characteristic peculiarity is a tenacity of long-established customs. Even when improvements are suggested by the constituted authorities, the voice of their servants has little weight in favour of new measures. Responsibility is avoided by following

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the beaten track, and silence is the safest reply to those who propose a deviation from it, even for the sake of humanity. The outcry raised in India against the suttee was long powerless, until it returned reverberated from the British shore; and that against slavery will continue disregarded, unless it receives support from all the energy of the Home Government.

I am unable to suggest any measures for the amelioration and eventual abolition of slavery in India, less free from objection than those above stated. Subsequent occurrences have since induced, from the highest Court of Judicature, a proposal similar to the first; from Mr. Græme, when a member of the Government at Madras, a proposal similar to the eighth; and from him and Mr. Baber (than whom no one possesses a better knowledge of the western coast) proposals similar to the latter part of the tenth of my suggestions. Whilst Mr. Baber himself also advocates one similar to the sixth rule proposed by me. The late Mr. Munro likewise submitted a proposal similar to the fifth of my suggestions, which is the only one of the whole against which I am aware of any objections having been stated. The arguments against it will be found in Mr. M'Leod's letter of the 13th January 1826; but they appear inapplicable, inasmuch as "preventing parents or guardians from assigning children in the customary modes," to be brought up as dancing women, is quite distinct from "the purchase of children" on that account.

But setting the fifth suggestion aside, the absence of any objection against the other enactments proposed by me, and recommended by the Board of Revenue at Madras for adoption by the Government, confirmed as the expediency of several of them has been, by the other authorities I have mentioned, will, I trust, under the moderate caution and attention to vested rights which I hope will be found to pervade the proposal of the whole, find, for some of them at least, a more able and successful, though not a more zealous advocate.

III.—*An Historical account of the Christians on the Malabar Coast, by the Venerable Archdeacon Robinson.* A. M.

PART 3D.

(Continued from the 104*th page of our* 2*d Number.)*

We have now arrived at the most memorable event in the history of the Church of Malabar, the forcible intrusion of a foreign jurisdiction, and the bold and persevering measures employed by the

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Archbishop of Goa for reducing this foreign diocese to the dominion of the See of Rome. Other expedients had now failed, and Menezes, impatient of delay, resolved on the decisive step of assembling a general synod in Malabar, overawing their deliberations by personally presiding in their counsels, and thus adding a shew of legal sanction to the constitution he was determined to force upon their acceptance.

The remarkable person who undertook the enterprize was in every way fitted for its execution. Bold, uncompromising, and fierce in his natural disposition, shrinking from no personal labour in the great cause of Papal supremacy to which he had devoted himself, and prepared to crush every opposing difficulty by the combined forces of temporal power and spiritual intimidation; such a man was an admirable instrument of Papal ambition in the subjugation of a distant province, and his conduct fully justified the wisdom of Clement in his selection. The simplicity of the people with whom he had to contend was no match for the Archbishop and his Jesuits; and it might have been expected that their characteristic timidity would quickly have been overborne by the power that was arrayed against them. But there was a principle, the strength of which he did not calculate, of deep and unalterable attachment to the antient Church from which they derived their faith; and, though they were too feeble for direct resistance, his purposes were baffled by perpetual delays. They yielded to the storm, but remained still unconquered, and the history of the synod while it brands with infamy the agents of such unprincipled aggression, has opened to us one of the most interesting pictures of suffering Christianity. In the rough but nervous language of Geddes,—" in the doing of this, " though the Archbishop was instrumental in letting the world know " more of the orthodoxy of that apostolical church, that it's like " they would ever have known of it otherwise, we have reason to " bless Providence, but none at all to thank him for it, who intend- " ed nothing less than the making such a happy discovery.

* The Archbishop, sailed from Goa on the 17th of September 1598, and after spending some time at Cannanore in some political arrangements entrusted to him by the Vice Roy, arrived at Cochin on the 1st of February 1599. He was received with great ceremony by the Bishop and the Governor; and communicating his design to the principal ecclesiastical and civil authorities, he summoned the

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*** The present narrative is slightly abridged from La Croze and Geddes, the authorities which I have followed in the former part of this Sketch.**

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Archdeacon of Malabar to repair to Cochin. This summons being repeated a second time and with the fullest assurances of personal safety, the Archdeacon, with the advice of the Catanars and the principal laymen, determined to admit the foreign Prelate into their Churches, if he came there, but without prejudice to their own jurisdiction. This resolution was registered, and they vowed to maintain it inviolable until the arrival of the Prelate they expected from Mosul.

The Archdeacon took the precaution to secure his person by the attendance of two christian chiefs and three thousand of their followers armed with swords and shields. These chiefs were sworn to defend him to the last extremity, even to the indiscriminate massacre of all that should oppose them—an oath which was not discovered before the diocese had submitted to the authority of the Archbishop.

With this guard he arrived at Cochin, where he was introduced by the governor to the Archbishop who received him with every show of friendship. He kneeled and kissed the hand of the Prelate, and all the Catanars who attended him paid him the same respect. This homage is always paid by them to bishops of other Churches as well as their own. The Archbishop, the Governor and the Archdeacon then retired to an inner apartment, and the two chiefs of Malabar took their station, with their drawn swords, behind the chair of Menezes. In the mean time the Syrians who had crowded in great numbers to the outer apartment, became alarmed for the safety of their Archdeacon and declared that the time was come to die for their religion. They were restrained from violence by a Catanar who persuaded them to wait in silence till their aid should be called for by their chiefs.

This interview terminated in a resolution to visit the Church of *Vaipicotta* which the Archbishop announced to the Archdeacon, who promised to meet him there with a considerable number of Catanars. At that place was the Jesuits' College for the education of the youth of the Diocese of Angamale. The Prelate arriving there with a numerous retinue, preached to the people *in Portuguese*, on those words of our Lord (John x. 1.) *He that entereth not by the door of the sheepfold but climbeth up some other way, is a thief and a robber.* The whole object of his sermon was to prove that no one entered the true gate of the Church but those were sent by the Pope, the only Vicar of Jesus Christ. The following day he administered the sacrament of confirmation, which

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had hitherto been unknown to them. He commenced it by a procession for the dead, after which he delivered a discourse on purgatory, a doctrine of which they were equally ignorant.

Neither the Archdeacon nor any of his clergy came to Vaipicotta till two days after these ceremonies were ended. The Archbishop dissembled his displeasure at this delay and received him graciously, communicating to him his plans for the reformation of the Diocese. The Archdeacon, with equal dissimulation on his part, appeared to approve all he proposed. The Prelate, however, was soon roused to measures more natural to his character. He learned that in the Church of Vaipicotta, even in his very presence, a prayer was publicly offered both in the morning and evening service, for the Patriarch of Babylon, under the title of *the universal Patriarch of the Catholic Church.* Menezes who considered him as a Nestorian Heretic, as a Schismatic, as an excommunicated person and chief of the whole sect, could not bear this profanation. Those about him advised him to conceal for the present his feelings of indignation, lest the Syrians should be roused to opposition. This temporising policy he at once rejected, and summoning an assembly of the Jesuits of the College, the clergy of the seminary, the Archdeacon and his suite, and his own followers, he produced a sentence of excommunication against all persons (whether of the laity or clergy) in the Diocese of Angamale, who should hereafter call the Patriarch of Babylon, by a title which belonged only to the Roman Pontiff, the successor of St. Peter; and he therefore ordered that in future, as well in the Liturgy* as in the other public prayers, no mention should be made of that Patriarch, who should be regarded as a Nestorian heretic, cut off from the communion of the Roman church.

This document being read, the Archbishop ordered the archdeacon and two of the senior Catanars to sign it. Amazed at this unexpected demand, he positively refused compliance. Menezes exclaimed with a resolute and imperious air—" *Sign, Father. We must lay the axe to the root of the evil.*" At length he signed his name, without uttering a word, the two Catanars followed his example, the Act was affixed to the doors of the church, and the assembly was dismissed.

The priests and elders of the people were thrown into the utmost consternation. They surrounded the door of the archdea-

* The *Liturgy* means the office of the Holy Communion, not the Order of Common Prayer.

con's house with bitter cries and complaints, which brought together the whole of the inhabitants. They uttered a thousand maledictions on the foreign prelate, whom they denounced as intending to overthrow the religion of St. Thomas, and loading with injuries their holy Patriarchs, under whose government they had lived for more than twelve centuries. They offered themselves to avenge these insults, but the Archdeacon entreated them to refrain from all violence; he declared that he had signed the paper from fear, seeing himself completely in the power of the Portuguese, and their ally the King of Cochin; that dissimulation alone could save them in the present circumstances, but that he was ready to die for the law of St. Thomas, and that he would never admit any other into the Diocese.

The Archbishop, when his followers ventured to blame his conduct as bold and imprudent, fearlessly replied.—"*It is the cause of God, and He will support it.*" In the mean time, however, he did not disdain to resort to a more secret influence to secure the success of his public measures; for the same evening, while two Syrian priests were conversing in the room adjoining to the Archbishop's, he overheard them censuring his conduct in the transactions of the morning. He called them to his presence, and at first sharply rebuked their presumption in judging of matters which they understood not; but suddenly changing his tone, he made them sit down, and explained to them with all mildness the supremacy of the Church of Rome, and the necessity of universal submission to its authority. Having consumed a part of the night in instructing them, and made them a present of some silver ornaments, he gained them completely to his cause, and one of them became a most powerful instrument in his hands in the reduction of the Archdeacon, who was his intimate friend.

From *Vaipicotta* he proceeded to *Paru*, the capital of a small principality of the same name, the inhabitants of which were the most noble of all the christians of St. Thomas, but most hostile to the Church of Rome. They had made many preparations for his reception, but the report which reached them of his conduct at Vaipicotta destroyed every feeling of respect which they might have entertained towards him. He was met by eight or ten persons, who conducted him to the church, which was instantly filled by christians armed with swords, spears, bows and muskets, but not one woman or child in the assembly. Menezes fearing some outrage on the part of his Portuguese followers, sent them to guard

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his boats, and retained only two priests to assist in the ceremonies of the day. Having put on his pontifical robes, he gave his benediction to the people, after which he made a long discourse the first part of which is directed against the errors of Nestorius, and enforced the obedience due to the see of Rome. All this passed quietly, but when he began to speak to them of *confirmation* and exhorted them to receive it, they siezed their arms and cried out tumultuously 'that they would not submit to an ordinance, which 'they did not acknowledge to be a Sacrament of Christ, but was 'an invention of the Portuguese, to mark them as their slaves and 'vassals; and that though the cowards of Vaipicotta had sub-'mitted to his degrading innovations, they would never endure it.' On hearing this, the archbishop with great calmness sate down, and began to reason with them on the divine institution of that Sacrament, but finding that the tumult still continued, he rose and advanced boldly to them, with the cross in his hand and the mitre upon his head, exclaiming. "This is the Catholic Faith which I "preach to you. Jesus Christ taught it to his disciples, and St. "Thomas preached it in these regions. All true Christians ac-"knowledge it, and I am ready to die for it; nor will I leave this "place, until I have established it by my preaching or by my "blood. If you desire this last attestation of the truth, approach. "You are armed—I am defenceless. The shepherd fights not: "his only office is to feed his sheep. I have dismissed my Portu-"guese attendants and am alone in the midst of you."

In conclusion he challenged 'those who talked against the Roman 'faith by night in corners, to come forth, if they dared, to dispute 'with him publickly.' The Archdeacon, who the night before had assembled the principal persons of the town and received their solemn assurance of allegiance to the Patriarch of Babylon, took this challenge to himself, and rising in passion, asked aloud 'who they were that taught heresies in the dark, and that preached no where but in corners.' Then suddenly leaving the church he went round the town and brought back with him nine or ten boys whom he presented to the Archbishop. Menezes received the children with every mark of affection, embraced them, and administered to them the right of confirmation. Despairing of further success, he returned to his boats and left Paru the next morning.

Arriving at *Mangatte*, the chief town of another principality, he found the people in alarm from a war in which they were engaged with the neighbouring state of Paru, and having preached upon his

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usual topics in the church, which was filled with furniture and women, he passed on the same night to *Cheguree*, a village in the territory of Cochin.

On his arrival he found the doors of the church closed and the town to all appearance deserted. Being informed however that the Archdeacon was concealed in one of the houses, he wrote him a long letter, promising to forget all that was past, and entreating him to consent to another interview, when he did not doubt he should be able to convince him of his errors. He added many promises of preferment if he submitted himself to the see of Rome. The Archdeacon after consulting with his Catanars, consented to the interview and went on board the Archbishop's boat. A long conversation ensued concerning the errors of Nestorius, and the supremacy of the Roman Pontiff. On the first point Menezes urged the authority of St. John (i. 14,) by which the Archdeacon appears to have been silenced but not convinced. On the second the Archdeacon appealed to a letter, preserved in their Archives, of Caius Bishop of Rome, in which he confesses the perfect independence of the two Patriarchates, and also to a letter called *the Letter of the Lord's Day**, because it is said to have fallen from heaven on that day, in which the same truth is affirmed. The conference ended in an agreement that a Synod should be assembled to determine all matters of faith; and that in the mean time the Archbishop should be allowed to preach and deliver the benediction, but that he should be received only as a foreign Bishop, and that he should neither confirm nor perform any other Episcopal office within the diocese. This resolution was signed by the Archbishop, the Archdeacon and the Catanars. It was further agreed that the Synod should be held before Palm Sunday of that year (1599), that the Archdeacon should accompany the Portuguese Prelate in his visits, and should raise no disturbance in the churches, nor be attended by such numbers of armed men as before. The sequel will shew how these articles were violated by both parties.

His political engagements obliging him to go to Quilon, he visited the town of *Porcoa* in his way, and was the first to break the compact he had made by administering confirmation in the Church. He repeated the same, with other episcopal acts, soon after at *Mo-*

* Mr. Baluze in his remarks on the ordinances of the Kings of France, has printed *an Epistle of the Lord's Day*, which was well known in the viiith century. They who brought it to notice, said that it was dictated by our Saviour, written by an angel, and that it fell from Heaven at Jerusalem. Fabricius has inserted it in his collection of the Apocryphal Writing of the New Testament, p. 309, &c. There is no mention of the Church of Babylon. *La Croze.*

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landurte, where he was received with great kindness. In the mean time the Archdeacon, who had been obliged by sickness to leave him, or more probably using that pretext to excuse his absence, learning that Menezes had already violated the treaty, wrote letters from Angamale, where he then resided, to all the Churches of the diocese, threatening to excommunicate all that should unite with the Archbishop of Goa. He entreated also the Heathen Kings to forbid him to enter their territories, and gave them to understand that the Portuguese Prelate desired the control of the Christians of St. Thomas in order to make them the vassals of Portugal. These Princes, especially the King of Cochin, had already begun to suspect such a design, and to be jealous of his interference with their subjects.

The Archbishop, proceeding southward, arrived at *Diamper*, which had been the residence of several of their former Bishops, and finding that no ordination had taken place in the last two years, he gave notice of his intention of ordaining any candidates that should offer themselves on the day before the fifth Sunday in Lent, writing at the same time to the Archdeacon and desiring his attendance at the time appointed.

The Archdeacon reminded him that this was an open violation of the agreement made at *Cheguree*, and that if he persisted, the Synod could not take place, since the first question for the Synod to discuss was that of his jurisdiction. Menezes answered that nothing should prevent him from exercising this and all other episcopal functions, in obedience to the Pope's commands, to whom the whole world was subject. The Archdeacon desired him, at least, only to ordain those of the Latin rite, that is, the Portuguese and such natives as had been educated by the Jesuits. The answer was positive and characteristic—that he should ordain all, both 'of the Latin and Syriac ritual, since it was his object to destroy all distinctions and reduce all to one common head.'

Upon this the Archdeacon published an edict to all the Churches of the diocese prohibiting all, on pain of excommunication, from receiving holy orders from the foreign Prelate, and strictly commanding all, both Clergy and Laity, to exclude him from their churches and not to attend his ministry.

The Senior Catanar of the Church of *Diamper* on receipt of these letters, immediately required the Archbishop to desist from administering confirmation and not to enter the Church again. He paid no attention to this remonstrance, and was equally unmoved by the threats of the King of Cochin and his officers, who strongly enforc-

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ed the Archdeacon's prohibition. Accordingly on the day appointed, he ordained *thirty seven* young men, having first made them subscribe to the confession of Pius iv, and take the oath of obedience to the Pope.

After this solemnity he went to *Carturte*, where he had determined to pass the holy week. On Palm Sunday high mass was performed with great pomp, for the Archbishop, hoping to charm the common people, had sent for the full choir from Cochin. His expectations were however entirely disappointed; for this simple people were more disgusted with the ceremonies of a service which they already disliked, in proportion as their external splendor was increased. Having gained over to his party two of the principal Christians of *Carturte*, and many of the heathen chiefs in the neighbourhood, he treated with scorn a peremptory message he received from the Queen* of the country commanding him to quit her territories in three days, on pain of death, and advanced with greater boldness in the prosecution of his great object. The occasional opposition he met with rather inflamed his zeal and was more than counterbalanced by the accession of many Catanars whom he gained over to his interests by large presents and larger promises. He determined to make one resolute effort either to bend the stubborn Archdeacon to his will, or to break with him for ever. Assembling therefore the Catanars who had submitted to his authority, he told them he would no longer bear with the *rebellion* of the Archdeacon, that he should therefore immediately depose him and appoint one of his near relations *Toma Curia* to succeed him in his office. The Catanars entreated him to allow them some further time to reason with him, and twenty days were granted for that purpose. The next day six of their body were sent to induce him to submit, but all their entreaties were in vain.

On Easter Eve he held a second ordination, when he conferred orders on many who before had been prevented from applying. On Easter day the heathens, being grievously offended at a solemn procession which he had ordered, hired an infamous Juggler to murder him. The man failed in his attempt, and was condemned by the Queen to be impaled. At the intercession however of the Archbishop this punishment was remitted, and he was condemned to the gallies at Cochin for life. This circumstance deserves to be noticed as honorable to the character of Menezes, and as shewing the great influence which, by some means or other, he had acquired

* Called by the Portuguese *Reina di Pimenta*, Queen of Pepper.

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over the Native courts in so short a time.

After the morning service he was invited to be present at the *Nerka*, a feast which they celebrate on certain festivals, resembling the *Agapae* of the antient church. The bishop has one half of the provisions, the Priests one quarter and the People the remainder. The Archbishop was too much fatigued to attend, but the episcopal portion of the repast was sent to him. In the evening he visited all the sick in the town and gave them money and spiritual advice.

On the Wednesday in Easter week he paid a second visit to *Molandurte*, but met with a very different reception. Not a single person attended at the place of landing, and the doors of the church were closed against him. He remained therefore on board, till the arrival of the chief officer of the king of Cochin, whom he desired the Governor immediately to dispatch to his assistance. The king, notwithstanding all his former attempts in favour of the Archdeacon, did not dare to refuse compliance with the present demand; and the chief immediately on his arrival attending the the Archbishop to Church, and commanding the people, in the king's name, to do whatever the foreign Prelate directed them, the inhabitants submitted, and were reconciled to the Church of Rome.

In a second visit that he made to *Diamper*, by threats and intimidation he prevailed on the chief officer to issue the same orders, threatening the king of Cochin himself with the vengeance of the King of Portugal, if he did not protect him from the insolence of the people and further his views. The next day, after administering confirmation, he announced that he had excommunicated and deposed the Archdeacon, as a rebel to the Pope, exhorting them to renounce all connection with him. In the evening he ingratiated himself with the inhabitants by visiting the sick and giving money to the widows and orphans, contrasting his beneficence in giving them alms with the conduct of their own Bishops who took alms from them; but omitting to explain to them that while their Prelates depended for their support entirely on the contributions of the people, he enjoyed a princely revenue and had the command of the treasury of Goa.

This politic behaviour gained him many partizans, among the laity, while his bold and insolent behaviour towards the Native princes and their officers, gave them a high opinion of his power, and made the poor Christians generally wish for the protection of a Prelate, who by his political influence would be able to espouse their

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quarrels and defend their rights.

The Archdeacon was now seriously alarmed. Many of the churches were overawed by the Heathen princes, some of the most important (particularly *Carturte, Molandurte* and *Diamper*) were subdued by the personal exertions of the unwearied and determined Prelate; and every avenue of the country was so guarded by the Portuguese, that his own escape and the arrival of a Syrian Bishop appeared equally hopeless. The Archbishop, being informed of his perplexity, wrote a letter to him, in which he 'cited him to appear 'before the tribunal of God to give an account of those souls pur- 'chased by the blood of Christ, who were perishing by his revolt 'and disobedience; he assured him that this citation must shortly 'be obeyed; that he had been desirous, according to the laws of 'Charity, to avert it; that he spoke this not as a Prophet, but as a 'man persuaded that God would not abandon his church, and 'that the glorious Apostle St. Thomas would intercede with God 'for his disciples against those who were opposed to their welfare.

This letter was well timed and the effect of it decisive. The Archdeacon replied that he repented of his opposition, which he entreated the Archbishop to pardon, and that he submitted himself to the Roman Church.

The Archbishop, though delighted at this full concession, was determined to humble his adversary still further, and told the Catanar who brought the letter he had been so often deceived by similar devices of Heretics, that he could not believe his present professions to be sincere except he signed the ten following Articles.

1. *That he should abjure the errors of Nestorius, and his disciples Diodorus and Theodorus,* whom the Christians of Malabar reverence as Saints; that he should confess them to be accursed heretics, condemned to eternal punishment for their errors, in which they persisted even to their death.*

2. *That he should confess that there is not a law of St. Peter and a law of St. Thomas, but one only law of Jesus Christ our Lord, preached uniformly throughout the world by all the Apostles.*

* A notable instance of the ignorance of Menezes and his coadjutors. Diodorus of Tarsus and Theodorus of Mopsuesta had both been dead long before the elevation of Nestorius to the See of Constantinople! Diodorus is commended by Basil, Epiphanius, Chrysostom, and all the orthodox writers of his age, and was never charged with any errors! The condemnation of the other was procured, long after his death, by intrigues which are fully related by all Ecclesiastical Historians. *La Cruze.*

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3. *That he should make before the Archbishop the same confession of Faith, which he sent to him from Goa, when he made him Governor of the diocese, after the death of Mar Abraham.*

4. *That he should deliver up all the Syriac books of the diocese, whether his own property or left by former Bishops, in order that such as require correction may be revised, and the rest burned.*

5. *That he should promise and swear obedience to the Pope, the successor of St. Peter, the Vicar of Jesus Christ upon earth, the supreme Head of the Church, the Father, the Master, the Doctor and the Prelate of all Christians, of all Bishops, Archbishops, Primates and Patriarchs in the world; that he should confess that all men owed him obedience, and that such as refuse are excluded from eternal salvation.*

6. *That he should anathematize the Patriarch of Babylon, as a Nestorian Heretic, a Schismatic, separated from the obedience of the holy Roman Church; that he should swear not to obey him in any thing, to have no intercourse or communion with him, not to receive his letters or to answer them.*

7. *That in like manner he should swear never to receive any Bishop or other Prelate into the diocese, that was not sent by the Roman Pontiff, and recognized by the Archbishop of Goa, and that all such he would obey as his true Pastors.*

8. *That he should acknowledge the Archbishop Menezes as his Bishop, delegated by the Apostolic See; that he would in all things be subject to his orders as long as the diocese should be without a Bishop of its own.*

9. *That he should dispatch letters to convene a Synod of the diocese in a place which should appear most suitable to the Archbishop, to discuss matters of Faith; that all the Priests and all persons chosen by the different churches should attend, and that the Archdeacon should swear to consent to whatever should be there determined.*

10. *That he should accompany the Archbishop wherever he went, and that peaceably, and without other armed attendants than his own domestics, that he should embark with him and attend him in all his visits to the Churches.*

The Archbishop sent these Articles by a Catanar; but to assure himself of the fidelity of the messenger, he exacted from him subscription to the profession of faith and a vow of obedience to the

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See of Rome. He made him swear also that if the Archdeacon did not sign the Articles within twenty days he would abandon him.

After all his precautions however he was still apprehensive that the King of Cochin would oppose these designs upon his Christian subjects. He determined therefore to go to Cochin and by means of the Governor to gain the concurrence of that Prince to all his measures. The King himself waited on the Archbishop, and promised all that was required of him. Menezes, delighted with this assurance, went immediately to Cranganore to prepare, in consultation with the Jesuits, the Decrees of the approaching Synod.

While he was thus engaged, the King of Cochin visited him there, and was met by a fierce and angry remonstrance. The Prelate complained loudly of the treatment he had received in his territory, and threatened him with the displeasure of his Sovereign. But his chief subject of complaint was that the king defended the Archdeacon in his rebellion, and with most angry violence and intemperate abuse of his religion, he expressed his wonder that an Idolater should presume to favour the Patriarch of Babylon against the Pope, being utterly ignorant of the difference between them. Throughout the whole of this strange and disgraceful scene the Heathen Prince (even according to the account of the Portuguese historian) appears to infinitely greater advantage than the Christian Prelate. His temper appears to have been unruffled, and he was silent on the subject of his religion. He left the Archbishop with an assurance of friendship and protection, which in his subsequent conduct he does not seem to have violated.

Accordingly he wrote immediately to the Archdeacon, desiring him to submit himself to the Archbishop, and wrote also to the King of Mangate to enforce his obedience. Upon the receipt of this letter the unfortunate victim of this protracted persecution, finding no alternative but instant and unconditional surrender, wrote to the Archbishop that he was ready to obey all his commands. He begged only that he might wait upon him at some other place than Cranganore, which being a Portuguese fortress, alarmed his fears of a prison at Goa. Menezes yielded to his request and appointed the Jesuits' college at *Vaipicotta.* Their meeting was in the Church, and the Archdeacon throwing himself at the feet of the Prelate, adopted the words of the returning prodigal and implored forgiveness. Menezes, in raptures at this happy termination of his

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labours, raised him with every demonstration of kindness, congratulated him on his reconciliation with the Catholic Church, assuring him of the final reward reserved for those who bring many souls to the purity of the faith. He concluded by urging his immediate and public signature of the Articles. The Archdeacon entreated that he might sign them in private, representing the probable disaffection which the other mode might excite among the people whom he was desirous to bring over. The force of this argument was instantly admitted, and the oath and subscription to the profession of faith and the ten Articles were made before the Jesuit Francisco Roz, who had been the very soul of Menezes' counsels in the whole transaction.

Nothing now remained but to arrange the preliminaries of the Synod. It was proposed that it should be held at *Angamale*, the Metropolitan Church of the diocese, but the Archbishop had strong reasons for objecting to this. *Angamale* was not within the territories of Cochin, and the inhabitants were strongly attached to their old religion. It was finally determined that it should assemble at *Diamper*, a short distance only from Cochin, on the 20th of June, 1599, the second Sunday after Trinity; and accordingly both the Archbishop and Archdeacon issued letters, commanding the attendance of all priests and four laymen from every town at the time and place appointed.

The Archbishop on his return to Cranganore composed, and wrote with his own hand, the decrees of the Synod, which were immediately translated from Portuguese into Malayalim. He had taken good care to engage the assistance of the neighbouring chiefs; and in order to secure the great object—the majority of votes in the Synod—he ordained no less than fifty Priests in the Church of *Paru* on Trinity Sunday. These, together with the thirty eight ordained at *Diamper* a little time before, and others at *Carturte*, probably amounted to at least two thirds of the whole number present at the Synod, which did not exceed one hundred and fifty three. Many also of the lay delegates he conciliated by considerable presents, some of great value.

On the 9th of June he arrived at *Diamper* accompanied by six Jesuits and his Chaplain, and appointed a Committee of eight Catanars and four laymen, who examined and approved the decrees which he had prepared. On the 20th of June the Synod was opened with great solemnity, the Clergy of Cochin, with their Choir, the Governor and his Officers being present on the occasion.

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The history and acts of the Synod will form the subject of another paper.

IV.—*Climate of Seringapatam.* Latitude 12°45′ N. Long. 76°51′ E. *(Extracted from the Journal of the Asiatic Society of Bengal.)*

Being desirous of including within the pages of the Journal all the data necessary for a meteorologist, to judge of the contingencies of pressure and temperature on the whole continent of India, we extract the following results of a meteorological journal, kept for two years at Seringapatam, from Brewster's Edinburgh Journal of Science, No. 5.

The original registers were kept by Mr. SCARMAN in 1814 and 1816. They were abstracted and reduced to order by Mr. J. FOGGO, Junior.

The mean temperature of the whole year is by observation 77.06° The mean at sunrise is 63°.17: at 3 P. M. 90°.95:—of the day, 84°, of the night, 70 .11. The average daily range of temperature 27°.7. The curve of mean temperature has two convex summits, in May and October, corresponding with the sun's passage twice over the latitude of the place. The highest temperature is 115°, and the lowest, 48°.

The mean temperature of the river Caveri, observed every day at 6 A. M. and 6 P. M. is 77.2 agreeing exactly with that of the air.

The average height of the barometer is 27.568, whence the elevation of Seringapatam may be calculated to be 2412 feet above the sea, assuming the sea level, 29.88, and the temperature of the intercepted column of air, 78°.

The average diurnal tide between the hour of 10 A. M. and 4 P. M. is 0.074 inch. During the prevalence of the south-west monsoon, the extent of the variation is diminished. The monthly variation also proceeds with great regularity, the whole range being 0.262. For the last three months of 1816, the register was extended to the hour of 8 P. M. and the average height of the barometer at that hour is 0.006 *lower* than at 4 A. M.

The prevailing winds are the north-east and south-west, or the general monsoons of the Indian Ocean. The south-west sets in during the month of April. When it commences, its reciprocation with the north-east wind interrupts the serenity of the weather; and during its continuance, thunder storms occur almost every day, with heat-lightning at night. This is the rainy season, but the monsoon having deposited its superabundant moisture upon the ghats, very little rain falls at Seringapatam. During the north-east

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monsoon, which begins about the end of October, the weather is settled and fine, with heavy dews before sunrise.

Range of the Thermometer, &c. in 1816.

Months.	Mean temperature at sunrise.	Mean temperature at 2½ P. M.	Mean daily range of temperature.	Mean monthly temperature.	Monthly difference from annual mean.	Evaporation.	Rain.	Proportion of winds.		
								n. e.	s. w.	var.
					°	inch.	inch.			
January,	54°	84°	30	69°	—6.7	8.83	0	30	1	0
February,	58	91	30	74	—1.7	10.17	0.30	24	5	0
March,	59.5	100	43.5	79.7	+4.0	15.05	0.01	12	17	2
April,	66	100	34	83	+7.3	14.52	2.47	4	26	0
May,	66.5	100.5	34	83.5	+7.8	15.00	5.46	3	28	0
June,	65.2	90.5	25.2	77.7	+2.0	9.27	5.85	1	29	0
July,	64.5	82	17.5	73.2	—2.5	6.60	1.86	0	31	0
August,	62.5	85.5	23	74	—1.7	8.77	1.37	0	31	0
Sept.,	62.2	89	26.7	75.5	—0.2	9.36	0.80	0	30	0
October,	64.5	88.5	24	76.5	+0.8	9.30	4.07	17	13	1
Nov.,	61.5	82.5	21	72	—3.7	7.35	1.51	26	4	0
Decr.,	57	85	28	71	—4.7	8.92	0	28	3	0
Mean,	61.7	89.8	28.1	75.7		123.12	23.7	145	218	3

Range of the Barometer, in 1826.

Months.	Mean Height of the Barometer at				Mean monthly pressure at 32°.	Difference from mean annual pressure.	Daily tide from 10 A. M. to 4 P. M.
	4 A. M.	10 A. M.	4 P. M.	8 P. M.			
January,	27.715	27.763	27.677		27.614	+ .169	0.086
February,	.648	.687	.608		.527	+ .082	.079
March,	.638	.664	.571		.486	+ .041	.093
April,	.569	.614	.499		.411	— .034	.115
May,	.539	.559	.478		.373	— .072	.081
June,	.498	.509	.458		.354	— .091	.051
July,	.498	.507	.471		.372	— .073	.036
August,	.502	.514	.470		.372	— .073	.044
Septr,	.536	.545	.483		.392	— .053	.062
October,	.592	.621	.634	27.578	.461	+ .016	.087
November,	.588	.630	.559	.587	.484	+ .039	.071
December,	.616	.650	.563	.613	.497	+ .052	.087
Mean,	27.578	27.605	27.531	27.592	27.445	range 0.260	0.074

V.—*Experiments on the Preservation of Sheet Iron from Rust in India.* By James Princep, Sec. &c.

(*Extracted from the Journal of the Asiatic Society of Bengal.*)

The proposed extensive employment of iron steam boats for the navigation of the Ganges, rendered it a desideratum to ascertain

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what varnish or composition would best preserve the exterior surface of such vessels from the rapid corrosion to which iron is so peculiarly subject in a hot climate. A series of experiments was undertaken with this view by myself at the requisition of Government; and it may perhaps be useful to record the principal results in a journal of science.

Two sets of six wrought-iron plates, each measuring three feet by two feet, were fixed to two iron triangles, the plates being prevented by studs from coming into contact with each other. The same varnishes were applied to both sets, one being intended for entire submersion under water, the other to be only half immerged, in order to feel the united influence of air and water.

The following were the coatings applied.

1. Common coal tar, laid on hot, and the plate heated.

2. *Theetsee* varnish of Ava, one coat. This took a very considerable time (two months) to dry, kept first in a cool-room, and afterwards in a room heated by furnaces.*

3. Native *Dhúna*, applied to the iron hot, in a thick uneven coat.

4. Best white-lead paint, three coats; allowed to dry and harden for nearly three months.

5. Coach-makers' varnish, two coats; dried rapidly.

6. Spirit varnish, several coats; warmed.

7. White wax, melted on the surface.

8. White wash, of pure lime water.

9. The surface of the iron plate cleaned and guarded with an edging of zinc soldered on.

10. The natural surface of the rolled iron sheets, covered with its usual hardened grey oxide.

Many of the foregoing were employed from curiosity only, especially No. 6, the spirit varnish, which had on many occasions proved quite ineffectual in preserving the surface of polished iron and steel from rust in the atmosphere of Calcutta.

The two frames were suspended as above described, one under water, the other half immersed, from one of the unused dredging boats near the Chitpur lock gates of the Circular canal, where they were left undisturbed for three months, during a period of the year,

* Major BURNEY states, that three or four days are sufficient for the varnish to dry when laid on wood, (Journal, Vol. I. p. 172.). I had not a damp vault in which to expose the plate as recommended by that officer, and that may partly account for the delay in drying; but all varnish and paint takes longer to dry on metal than on wood, from its non-absorbent nature.

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when the water of the canal was only slightly salt.

They were then taken up for examination, and presented the following appearances.

No.	Varnish.	Plates under water.	Plates half above water.
1	*Tar,*	Perfectly preserved and free from rust.	A few dots of rust between wind and water.
2	*Theetsee,*	Perfectly uninjured in appearance.	A line of rust at the level of the water.
3	*Dhoona,*	White and pulverulent; soft and easily rubbed off while wet; rust here and there.	Large cracks from the contraction of the part exposed to the sun, whitened where thick, black where thin; plate preserved, above water.
4	*Paint,*	Almost wholly disappeared, and blotches of rust on the surface.	Paint uninjured above water mark, and plate preserved, but below water entirely removed.
5	*Copal varnish,*	Whitened, pulverulent, and soft; but not much oxidated.	In air less, whitened spots of rust breaking out every where.
6	*Spirit varnish,*	Whitened and very rusty.	Very much corroded.
7	*Wax,*	No trace of wax left, and very rusty.	This plate was all under water.
8	*Lime,*	Flaky; peeled off, and very much corroded.	In air remains on and acts pretty well.
9	*Zinc,*	The clean iron excessively corroded and bad: the zinc also oxidated.	Much more rusty in the air than under water, where a kind of crust was formed.
10	*None,*	The natural surface was a little whitened and pretty well preserved.	Rusty on the edges or where it had been scraped; elsewhere little injured

The superior preservative power of the coal-tar to all the substances tried, with the exception perhaps of the theetsee, was evident; the Burmese varnish laboured under the disadvantage of being a single coat, otherwise it would doubtless, from its hardness, its firm adherence, and its inalterability by water, prove fully equal as a lacquer to the coal-tar: the latter has on the other hand the advantage of drying and hardening as soon as laid on.

The change effected on the resinous varnishes is produced by an actual chemical combination with the water; the soft pulverulent matter is analogous to the white powder obtained by the addition of water to an alcoholic or of acid solution of rosin.

The failure of the zinc guard, which was expected to act as an electro-positive protector to the iron, may I think, be attributed to its being adulterated with lead, which being negative with respect to iron, would cause, as was actually the case, a more rapid oxidation of the latter metal: (the impurity of the zinc was afterwards fully proved.)

The wax and the white paint had entirely disappeared from the

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surface of the metal under water before the plates were taken up; it is impossible therefore to say in what way their removal was effected.

The bituminous (coal-tar) coating was finally adopted, and it has been successfully applied to the iron steamer the Lord William Bentinck, lately launched under Captain Johnston's superintendence.

VI.—*Scientific Intelligence.*

We have recently inspected an extremely curious and ingenious anatomical figure, brought out to this country by Mr. Knox, a surgeon of this Establishment.

This figure, which is an exact model of the human body, with the skin taken off, was constructed by the Chevalier Auzoux, a Physician of Paris, and has been viewed with approbation and admiration, not only by unprofessional persons, but by the most distinguished members of the Medical profession, both in this country, and in England.

It represents, with the greatest minuteness, and critical precision, all the details of the human structure. Each muscle and organ can at pleasure be removed and examined, with the same results, that are attainable by the process of dissection.

Indeed, whether as regards its striking resemblance of nature, or the anatomical correctness of its construction, it may be considered one of the most extraordinary combinations of art and science, that have appeared in the present day.

Several of the most eminent surgeons in England have expressed their opinion, that altho' this invention of Mr. Auzoux will not supersede the necessity of dissection, yet that it will greatly facilitate the attainment of the science of anatomy, will enable those who have already acquired it to maintain their knowledge, and will prove of important aid in public lectures, in giving a knowledge of the relative position and arrangement of the various parts of the human frame.

If results such as those above stated, are calculated upon in England, of how much greater importance is the invention likely to prove in this country, where the heat of the climate renders it almost impracticable to resort to dissection.

We observe from the preface of a short pamphlet, descriptive of the invention, which has been published by Mr. Knox, that a figure has been ordered by the Honorable Company for the school in Calcutta, and we entertain hopes that measures may be adopted

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for securing to the public, the benefit of the one now at Madras.

In addition to the advantage of enabling the members of the Medical profession to refresh their memories on particular points, the possession of such a model, would afford the means of imparting a respectable knowledge of anatomy to the subordinate grades of the Medical Department, a desideratum which we believe has been long felt, and it might also thro' the medium of lectures, excite in ths minds of the Natives a desire of acquiring that interesting and useful scienee.

It will doubtless be conceded, at the present period especially, when it is the policy of our rulers to give every encouragement to the employment of Natives in places of importance and trust, that no means should be neglected which can in any way tend to enlighten and enlarge their minds. It has been observed by many who have had the best opportunities of judging, that of late years, a spirit of research and a desire of extending their studies in the various branches of science, which do not militate against their prejudices, have been engendered among them, and which give promise that they will readily avail themselves of such opportunities as may be afforded for their improvement.

Of the truth of this assertion, the reports of the several institutions of learning, but more especially those at Calcutta and Bombay, will afford abundant proof.

We are compelled with regret to state that in this respect we are far behind the Sister Presidencies, but we trust the time is not far distant, when Madras will hold out to the aspirant after knowledge, greater advantages than a mere philological acquaintance with the English and Native languages.

We have reason to believe that the use of the model of which we are now treating, has been tendered to Government, and we cannot but entertain hopes that the opportunity will not be lost, which is thus afforded, of disseminating knowledge on a subject, which from the revolting nature of its study, has hitherto, chiefly been confined, to those whose professional pursuits have obliged them to acquire it.

We cannot conclude these remarks without observing, that the community are greatly indebted to Mr. Knox for the kindness and urbanity he has displayed in exhibiting the valuable figure of which we have made mention and in addition to which that Gentleman is in possession of perhaps the most extensive collection of skeletons and other anatomical specimens ever brought out to this country.

Ed.

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VII.—METEOROLOGICAL REGISTER kept at the MADRAS

	Standard Barometer No 3. by Gilbert.							Standard Therm. by Troughton.						
	Sun Rise.	10 A. M.	Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	Sun Rise.	10 A. M.	Aft. Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,040	30,120	30,072	30,042	30,034	30,070	30,108	79,5	84,5	86,6	86,9	83,2	82,4	82,0
2	,108	——	,126	,074	,068	,116	,134	79,0	----	87,0	87,0	83,0	82,0	81,3
3	,064	,142	,102	,064	,042	,076	,092	78,3	84,5	87,0	88,7	82,0	81,3	81,0
4	,058	,138	,082	,026	,022	,040	,048	77,1	84,3	89,0	89,7	84,1	81,5	80,7
5	,044	,104	,074	,036	,020	,040	,060	77,1	83,5	90,2	85,5	83,2	81,2	81,7
6	,052	,150	,100	,050	,044	,084	,106	75,4	84,8	88,7	89,8	83,3	81,0	81,0
7	,050	,144	,100	,050	,046	,080	,092	75,1	85,0	85,7	86,0	82,5	81,4	79,0
8	,034	,104	,060	,024	,018	,054	,072	74,3	84,5	85,0	85,8	82,8	82,7	81,7
9	,026	——	,052	,016	,008	,034	,080	73,0	--	85,6	86,5	83,0	82,5	81,9
10	,026	,076	,052	,018	,010	,022	,048	76,6	84,4	88,8	88,9	85,9	82,9	81,9
11	,022	,086	,094	,018	,004	,028	,040	79,1	84,6	87,0	88,0	82,7	82,9	79,9
12	,024	,070	,032	,004	,000	,024	,036	77,0	84,0	85,2	85,9	82,0	81,0	81,0
13	,004	,066	,028	,002	,000	,010	,036	77,0	84,7	86,7	87,0	84,0	81,8	82,0
14	,016	,091	,042	,004	,000	,012	,042	78,0	85,1	86,1	86,7	83,8	82,0	81,9
15	,024	,094	,050	,018	,004	,02[illegible]	,040	76,9	85,0	86,3	86,4	84,0	82,5	82,2
16	,020	,072	,040	,002	29,992	,004	,016	79,0	86,1	86,0	86,0	84,0	82,9	82,3
17	,006	,038	,012	29,980	,964	29,982	29,990	81,3	87,5	87,0	86,9	83,4	82,0	81,6
18	29,988	,056	,020	30,000	30,000	30,022	30,042	78,5	85,0	86,5	86,3	83,0	81,2	81,0
19	30,030	,110	,072	,032	,036	,062	,102	77,0	83,9	86,0	85,2	83,2	82,1	82,0
20	,036	,138	,092	,050	,042	,098	——	78,5	85,4	86,8	86,9	84,3	83,5	----
21	,060	,148	,106	,040	,040	,086	——	80,5	85,8	86,6	87,0	84,0	84,0	----
22	,084	,178	,146	,090	,050	,090	,092	81,5	85,7	87,6	87,1	84,0	82,3	82,0
23	,054	,126	,092	,074	,042	,084	,110	79,0	85,2	86,7	87,7	84,1	83,1	81,1
24	,050	,156	,118	,062	,052	,096	,124	76,0	83,4	85,0	85,9	83,5	82,5	81,8
25	,072	,160	,124	,078	,040	,070	,090	76,9	84,1	85,5	86,2	83,1	81,9	81,2
26	,036	,110	,056	,016	29,994	,014	,032	77,3	83,0	86,0	86,8	83,3	81,6	80,6
27	29,990	,024	,006	29,982	,982	29,996	,008	77,0	84,1	86,4	86,4	83,2	82,0	81,4
28	,990	,050	,024	,998	,986	30,012	,020	77,0	84,8	86,1	86,1	83,7	82,3	82,1
29	30,010	,080	,044	30,012	,998	,014	,030	78,0	85,1	86,1	86,8	83,9	82,8	82,0
30	,022	,058	,014	29,980	,972	29,988	29,996	82,0	86,0	87,0	87,2	84,8	83,9	83,8
31	,008	,052	,010	,972	30,002	30,000		82,0	87,0	88,7	88,0	82,8	83,0	----
Mean	30,034	30,101	30,066	30,025	30,017	30,043	30,060	77,9	84,9	86,7	86,9	83,5	82,2	81,5

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OBSERVATORY; FOR THE MONTH OF MARCH 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise	10 A. M.	Aft. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	o	o	o	o	o	o	o	Ins.	Ins.	Ins.		
1	——	7,5	9,5	9,4	10,4	9,6	9,1				W. & S.	Clr.d. & n. lightg.
2	——	——	——	——	——	——	——				SW. & SE.	Clear day & night.
3	——	6,5	14,1	——	9,7	9,2	9,0				NW. & S.	Clr. d.& n.hvy.dw.
4	8,6	13,4	14,0	12,7	11,8	8,5	6,8			2,396	SW. S. & SE.	do.
5	6,7	9,2	13,4	9,7	8,7	7,2	7,5				SW. & SE.	do.
6	5,9	13,1	15,0	——	9,5	7,8	7,0				W. SW. & SE.	do.
7	7,8	15,0	11,7	11,6	8,5	7,6	6,1				SW. SE. & S.	Mostly clear.
8	5,4	12,5	11,7	10,8	9,4	9,3	8,9				W. SW.SE.NE.	
9	5,0	——	11,6	12,5	9,0	6,7	6,0				SW. SE. & E.	
10	5,2	10,4	14,5	17,6	8,1	7,1	6,1				W. SW. & S.	Mostly clear. heavy dew.
11	6,7	10,7	13,2	13,5	7,5	7,0	6,2				NW. S. & SE.	
12	5,7	9,1	——	9,7	5,1	4,8	3,5			2,396	SW. SE. & S.	
13	3,9	10,2	——	12,3	7,1	6,4	6,3				W.SW.&SE. S.	
14	5,6	11,1	12,1	10,7	7,8	6,2	6,6				SW. S. & SE.	
15	4,9	11,1	10,3	10,1	8,0	6,8	6,8				SW. S. & SE.	
16	5,9	11,9	10,8	10,0	8,1	6,9	6,3				S. SW. & SE.	Mostly clear. dew.
17	6,4	11,9	9,5	10,1	7,4	6,7	5,6				SW. S. & SE.	
18	5,5	9,0	10,0	10,3	9,0	7,2	7,0			2,479	W. SE & S.	
19	5,8	11,7	12,4	11,2	10,1	8,3	7,7				SW. S. & SE.	
20	6,5	9,5	10,5	9,9	8,2	7,5	——				S. E. & SE.	
21	6,5	8,8	9,3	9,4	6,0	8,0	——				NE. SE. & E.	Mostly cloudy.
22	7,5	10,8	13,6	11,9	9,8	7,8	9,8				S. NE. & SE.	
23	7,5	10,7	12,9	13,7	10,4	——	9,0				W. E. NE.	
24	6,1	11,4	11,7	11,7	9,5	9,5	8,5				W. E. & SE.	
25	7,4	10,2	11,5	11,3	9,2	7,9	6,7			2,500	SW. NE. & E.	
26	7,3	9,1	11,0	11,7	9,1	7,7	7,1				SW. S. & NE.	Mostly clear. dew.
27	6,5	10,1	11,1	12,2	8,9	8,2	8,2				SW. SE. & S.	
28	7,0	10,8	12,2	11,9	10,1	9,6	9,7				W. S. & SE.	
29	7,7	12,1	12,6	11,7	10,0	9,8	8,0				W. SE. & S.	
30	7,6	9,8	11,1	11,0	8,7	7,3	6,7				SW. & S.	Mostly cloudy.
31	6,1	10,0	11,7	10,8	8,5	9,0	——				S. SE. & N.	Cloudy. Thunder [and lightning.
Mean	6,4	10,6	11,9	11,1	8,8	7,8	7,3					

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METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughton						
	Sun Rise.	10 A. M.	Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	Aft. Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,010	30,088	30,042	30,000	29,982	30,036		79,5	84,3	86,0	86,1	83,8	84,	
2	29,992	,033	,050	,012	30,002	,012		76,9	81,0	82,5	83,4	83,0	82,1	
3	,990	,052	,020	29,992	29,992	29,998		81,0	85,0	87,0	80,4	79,8	81,0	
4	30,000	,032	,014	,980	,992	30,016	30,024	76,5	80,4	82,2	82,8	77,8	79,8	80,2
5	,010	,058	,028	,994	30,000	,020	,051	80,0	82,3	83,9	84,3	83,0	82,7	82,5
6	,012	,054	,020	,994	29,998	,012	,044	80,7	84,0	86,0	87,0	85,7	84,5	83,3
7	,013	,046	,012	,974	,970	29,986	29,990	80,9	84,9	86,2	86,8	85,3	84,1	84,0
8	29,978	,008	29,978	,966	,926	,942	,952	82,0	87,8	88,1	87,9	84,5	83,4	83,7
9	,946	,000	,976	,956	,960	,956	,974	81,4	88,0	88,8	88,0	85,0	84,0	84,5
10	,968	,018	30,001	,960	,958	,960	,974	84,3	84,2	87,0	87,5	86,0	84,9	84,5
11	,976	,060	,046	,988	,964	,982	30,000	82,5	76,5	75,4	80,0	84,0	80,2	79,1
12	,994	,042	29,992	,978	,984	30,004	,008	77,0	84,0	84,7	85,0	83,8	83,0	82,3
13	30,000	,036	30,018	,990	,976	,000	,008	81,1	84,0	85,8	86,2	84,0	83,9	83,8
14	,008	,052	,014	,980	,986	,000	,008	79,4	85,2	86,0	86,7	85,0	84,0	83,8
15	,002	,034	,008	,968	,964	29,980	29,990	79,7	86,0	87,0	88,0	85,9	84,0	84,6
16	29,982	,024	29,998	,960	,966	,984	,996	81,2	86,1	87,5	87,8	85,9	85,2	84,5
17	,972	29,988	,958	,950	,948	,954	,960	84,0	87,0	89,0	89,4	86,6	85,3	84,9
18	,944	,958	,940	,918	,900	,906	,990	85,0	88,8	89,0	89,9	87,0	85,0	85,0
19	,900	,954	,942	,904	,908	,906	,914	87,0	91,8	95,2	93,9	89,5	86,5	85,0
20	,906		,952	,936	,938	....	....	84,2	....	94,0	97,4	90,9	....	....
21	,968	30,028	,982	,962	,960	,976	....	81,3	89,0	90,1	91,0	87,0	86,0	....
22	,978	,028	,984	,952	,946	,974	....	80,9	81,8	88,1	89,0	85,0	83,5	....
23	,970	,030	,984	,966	,980	,990	30,002	81,0	86,9	88,7	89,0	85,0	83,0	82,9
24	30,004	,086	30,052	30,012	,996	30,028	,044	78,7	85,0	86,4	86,4	84,3	82,4	81,9
25	,020	,080	,052	,012	,994	,004	,030	76,5	85,4	87,0	87,0	83,2	82,2	81,8
26	,020	,060	,038	,000	30,000	,020	,024	79,7	85,8	87,0	86,9	83,7	82,7	83,0
27	,032	,072	,046	,008	,006	,024	,040	80,7	85,0	86,8	87,4	86,3	84,2	83,1
28	,000	,038	,026	29,992	29,976	,000	,006	79,2	86,8	87,8	87,6	84,9	84,0	83,6
29	,000	,046	,014	,976	,986	,000	,014	81,1	88,4	89,3	88,5	85,3	84,0	83,7
30	,050	,100	,066	30,026	30,036	,088	,000	82,9	87,8	87,3	88,9	85,7	84,6	84,0
Mean	29,988	30,038	30,008	29,977	29,973	29,992	30,002	80,9	85,3	87,0	87,3	84,9	83,6	83,3

OBSERVATORY; FOR THE MONTH OF APRIL 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		[& drzzlng. rn.
1	7,5	8,4	9,0	10,4	7,3	7,7	——				NW. E. & NE.	Mstly. cldy. Ltng.
2	6,6	6,0	7,2	8,8	7,0	8,1	——	0,028		2,250	SW. SE. & E.	Cloudy. Ltng.
3	4,1	9,3	9,8	8,4	5,7	6,0	——				N.SE.E.&NE.	do.
4	5,5	7,4	7,8	7,1	3,6	4,8	4,3		1,625		N. NE. E.SE.	Cldy. hvy. rn. ltng.
5	4,1	4,6	5,9	6,3	6,3	6,7	4,9				SW. E. & SE.	Mostly cloudy.
6	4,7	6,5	6,4	9,0	7,7	6,2	6,1				NE. E. & SE.	Mostly clear.
7	4,9	6,8	8,2	8,8	8,4	8,1	7,1				W. & & SE.	Mostly clr. Ltng.
8	6,5	11,9	10,1	10,4	8,5	7,4	6,7				W. SW. & S.	} Clear.
9	5,8	12,3	10,3	10,3	7,0	7,7	6,5			2,090	W. S. & SE.	}
10	7,8	7,3	9,8	10,5	9,1	8,0	6,6				W. SE. & S.	do. Ltng.
11	5,5	4,5	3,7	6,0	11,0	6,2	5,1		1,997		NE. N. & SE.	Hvy. rn. & Thudr.
12	5,0	5,5	9,7	8,8	7,6	7,0	6,3				W. E. & SE.	Mstly. clr. & ltng.
13	5,6	7,0	8,8	8,7	7,7	8,1	8,9				E. SE. & S.	Mstly. flying clds.
14	5,4	8,2	8,2	8,7	8,4	7,9	7,8				W. E. & S.	Clear.
15	5,7	8,2	9,0	10,0	9,0	7,0	6,9				N. E. & S.	do.
16	5,3	9,3	9,7	9,1	7,9	7,5	6,7			2,365	SW. W. & S.	Thick haze.
17	6,1	11,0	9,0	11,4	7,1	6,8	6,2				SW. W. & SE.	Cloudy & ltng.
18	6,7	10,8	9,2	12,0	7,0	5,3	5,0				S. SW. & SE.	Mstly. cldy. & ltng.
19	8,3	10,0	——	17,7	12,5	9,5	7,6				SW. NW. & SE.	Mostly clear.
20	7,7	——	14,5	15,9	12,0	——	——				W. NW. & N.	Mostly hazy.
21	6,3	12,0	10,1	10,9	6,2	6,5	——				SW. & W. E.	}
22	5,9	——	10,0	10,9	8,5	7,4	——				S. SE. & S.	}
23	6,9	10,9	10,5	10,9	7,5	6,3	5,9			2,569	SE. & S.	}
24	4,7	9,7	11,2	12,4	12,0	10,2	8,4				SE. & S.	}
25	6,7	10,4	13,5	11,0	8,3	8,2	7,3				S. & SE.	} Mstly. clr. Dew.
26	7,2	8,8	9,5	8,9	7,5	7,2	6,2				S. & SE.	}
27	7,7	6,8	7,9	9,4	8,4	7,3	——				SE & S.	}
28	6,0	9,1	10,3	10,1	7,9	6,6	5,6				SW. S. & NW.	}
29	5,2	10,4	9,5	9,5	6,4	5,0	4,5				SW. & S. SE.	}
30	5,6	8,8	7,8	9,1	6,3	5,5	5,0			2,903	NW. SE. & S.	}
Mean	6,0	7,6	8,5	10,1	8,0	7,0	6 ,4					

METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughton.						
	Sun Rise.	10 A. M.	Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	30,080	30,140	30,100	30,036	30,026	30,042	30,080	82,5	87,0	88,5	88,8	85,4	84,5	83,9
2	,032	,096	,020	29,976	29,964	29,984	29,994	83,0	89,0	90,1	91,2	87,2	86,4	84,9
3	29,982	29,986	29,958	,936	,916	,928	,934	83,0	91,5	90,1	89,8	86,2	85,7	85,0
4	,928	,988	,964	,942	,938	,942	,974	84,4	91,3	93,0	91,0	87,0	85,6	84,7
5	,970	30,022	30,002	,972	,970	30,004	30,030	82,8	89,0	89,9	90,7	86,2	85,0	84,7
6	30,020	,050	,030	,992	,988	,026	,044	83,0	89,8	89,0	89,2	86,1	85,2	84,8
7	,004	,040	,008	,964	,950	29,972	29,982	84,0	87,7	88,7	89,8	86,2	85,2	84,4
8	29,958	29,976	29,958	,930	,912	,914	,936	83,5	88,7	90,0	90,7	87,3	86,8	86,2
9	,924	,970	,938	,924	,928	,948	,962	84,8	90,2	90,6	90,2	87,2	86,2	85,6
10	,970	30,001	,988	,964	,970	,988	——	84,0	90,9	90,3	90,4	87,4	86,4	---
11	,980	29,998	,980	,962	,944	,938	,946	84,9	88,7	90,2	91,0	87,7	85,8	86,6
12	,908	,940	,925	——	,842	,840	,862	84,6	92,8	99,2	——	89,0	87,0	88,0
13	,838	,858	,838	,828	,790	,800	,800	85,2	96,0	98,7	98,0	89,9	89,0	88,0
14	,816	,872	,886	,854	,812	,828	,836	86,3	95,0	98,9	101,3	90,0	89,7	88,1
15	,870	,940	,904	,890	,825	,878	,884	88,2	94,2	96,5	96,8	92,0	90,0	88,2
16	,886	,906	,884	,860	,820	,838	,836	88,6	94,2	98,5	102,9	92,0	89,8	90,9
17	,842	,872	,854	,840	,832	,828	,860	89,9	95,0	97,1	96,0	89,5	88,0	89,2
18	,856	,918	,900	,883	,880	,880	,908	87,7	95,5	101,0	98,0	93,3	86,7	87,2
19	,900	,938	,914	,885	,884	,888	,884	85,4	97,0	100,7	104,0	89,9	88,0	87,[illegible]
20	,886	,900	,887	,860	,832	,856	,850	87,0	94,7	98,5	102,2	91,4	90,2	88,[illegible]
21	,856	,910	,890	,828	,840	,864	,870	89,0	94,7	98,0	99,8	89,0	86,2	85,[illegible]
22	,846	,906	,880	,850	,842	,854	——	88,0	96,0	97,8	97,0	89,8	87,4	—
23	,844	,878	,860	,834	,828	,854	,880	86,5	96,8	98,3	93,5	88,1	88,4	89,[illegible]
24	,848	,910	,888	,864	,848	,846	,858	84,5	93,0	96,0	93,8	91,8	90,9	89,4
25	,860	——	,890	,858	,860	,904	,910	84,6	---	97,3	92,7	88,0	88,2	87,0
26	,920	,958	,944	,912	,902	,936	,938	85,0	93,0	97,0	92,8	87,8	86,4	86,[illegible]
27	,926	,952	,936	,908	,898	,908	,912	84,9	93,3	99,3	95,0	87,4	85,3	86,[illegible]
28	,900	,924	,916	,894	,874	,890	,886	86,0	95,0	97,8	92,0	88,8	87,5	85,4
29	,886	,972	,942	,914	,902	,924	,928	84,3	88,7	88,0	89,4	86,5	85,2	85,[illegible]
30	,928	,968	,958	,930	,916	,942		84,4	92,9	96,7	99,1	90,2	88,8	---
31	,928	,950	,916	,890	,876	,890		85,2	93,9	96,7	97,8	90,6	87,5	---
Mean	29,916	29,958	29,934	29,906	29,891	29,907	29,918	85,3	92,2	94,9	94,5	88,7	87,2	86,[illegible]

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OBSERVATORY; FOR THE MONTH OF MAY 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	Aft. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		
1	4,5	8,6	9,2	8,8	6,2	5,6	4,9				S. SE. & S.	Clear and Dew.
2	6,0	10,9	14,1	14,3	7,7	7,2	5,4				SW. W. & SE.	
3	5,8	13,4	11,2	10,9	6,2	6,7	5,5				NW. W. & S.	
4	6,4	13,7	13,0	13,0	5,2	5,6	—				SW. W. & SE.	
5	4,3	11,0	12,4	—	4,7	4,0	2,7				S. & SE.	Mostly clear. Dew at Night.
6	2,5	9,3	5,0	6,0	3,1	3,2	2,8				SE. S. & SW.	
7	3,0	—	4,7	6,6	2,4	2,2	1,5			2,924	SW. & S.	
8	1,7	6,7	6,0	8,7	3,5	3,0	2,7				SW. SE. & S.	
9	2,1	9,2	6,6	6,2	3,4	2,7	2,4				SW. & S SE.	
10	2,0	8,9	5,9	6,2	3,4	2,4	—				SW. W. & SE.	Mostly hazy.
11	3,0	6,2	5,4	6,2	3,9	2,8	3,2				SW. W. & SE.	Do.
12	2,6	11,1	16,2	—	3,0	1,2	0,9				SW. W & NW.	Do. lightning.
13	2,2	14,0	16,8	11,7	4,1	4,8	6,0				SW. W. & NE.	Mostly clear.
14	8,3	14,2	16,9	18,3	5,0	5,2	6,0			3,847	SW. & W.	Mostly clear & ltg.
15	8,2	16,2	14,3	9,1	7,0	6,0	2,9				W. SW. & S.	Mostly cloudy.
16	9,6	14,2	16,6	20,9	5,8	4,8	4,9				W. & NW.	Do.
17	9,4	13,0	13,4	10,5	3,5	3,1	3,7				NW. E. & SE.	
18	6,7	15,5	19,0	12,0	5,8	1,3	2,1				W NW. & SE.	
19	4,4	16,0	16,7	18,2	4,9	3,2	2,7				SW. W. NW.	
20	6,2	14,5	16,5	21,2	7,1	6,2	4,6				W. NW. & S.	Mostly clear.
21	11,2	13,7	16,4	14,5	5,2	3,7	2,8			5,267	W. NW. & NE.	
22	9,5	15,2	14,1	12,7	6,8	4,9	—				W. NW. & SE.	
23	8,5	15,2	16,8	8,6	4,1	4,6	4,1				N. NW. & SE.	Day cl. thk. hz. ltg.
24	6,5	11,0	13,0	10,0	10,8	10,3	4,4				SW. S. & SE.	Day clear do.
25	6,8	—	13,5	6,9	4,0	4,0	3,0				W. SW. & SE.	Cl. dy. ltg. in sw & w.
26	—	12,3	15,0	8,6	3,0	2,2	2,0				W. S. & SE.	Clear day. ltg.
27	—	10,8	17,3	10,5	3,1	1,5	2,8				NW. W & SE.	Do.
28	7,0	13,1	15,8	8,0	7,0	4,5	2,4			4,653	SW. NW & NE.	Mostly cl. ltg. thr.
29	5,3	6,7	15,0	7,4	5,5	—	2,7	0,097			E. SE. & SW.	Mostly clear.
30	—	8,6	14,2	14,8	6,2	5,0	—		0,104		W. NW. & SE.	Cloudy. some rain & ltg. at night.
31	6,2	13,4	14,7	14,9	8,9	5,9	—				W. & NW.	Do. ltg. thr. & rn.
Mean	5,7	11,9	13,1	11,2	5,2	4,3	3,4					

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The instruments with which the foregoing observations have been made, are placed upon a table about 4 feet above the ground in the western verandah of the Honourable Company's Observatary; which is situated in Longitude 5h. 21′ 9″ E: Latitude 13° 4′ 9″ N; at about two miles from the Sea and about 27 feet above the low water mark.

T. G. TAYLOR,
H. C. Astronomer.

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MADRAS JOURNAL

OF

LITERATURE AND SCIENCE.

No. 5.—*October,* 1834.

Continued from page 243.

I.—*A Sketch of the History of the Ramoossies residing in the Sattarah Territory and in the Poona and Ahmednuggur districts—By Captain Alexander Mackintosh of the 27th Regt. M. N. I. Commanding Ahmednuggur Local Corps.*

CHAPTER VI.

Their marriage ceremonies and remarks relative to them.—The first steps taken.—The Ramoossy nuptial ceremonies scarcely differ from that of the Shoodur.—The ceremonies of the Mangnie, Koonkoo, and Sukkur Poorah explained.—The Astrologer consulted respecting a fortunate day to celebrate the ceremony.—The besmearing the parties with Hullud.—The Joombra.—Erect a temporary shed or Mandwah.—Worship the household gods.—The Mandwah consecrated by placing the Dewuk in it.—The Gondull.—Preparations in the bride's house.—The bridegroom proceeds to the village in which the bride resides.—They move in procession —The Bhutt who performs the marriage ceremony enters the Mandwah.—The whole of the proceedings connected with the ceremony explained.—Proceedings at the Jannoosswarah.—Perquisites of the Ballottahdars, &c.—Presents made to the parents of the bride and bridegroom.—The bride accompanies the bridegroom to the house of his parents.—The Wurat procession with torches.—The expenses attending the marriage ceremony.—That of the Mhotur or Paatt explained.

The first step taken by a parent, is to ascertain where he can procure among the people of his own tribe, (but of a different family stock,) a suitable match for his child, when it has attained the age of three, four, five, or six years. In general, the father, an old female relative, or some other member of the family, is employed to make the necessary enquiries on this point.

It frequently happens among the higher castes, that it is the father of the girl who sets these inquiries on foot in the first instance; but among the lower orders, it is more commonly the father of the boy that does so. The following, is the mode of proceeding among

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the Ramoossies, which differs scarcely in any respect from that followed by the members of the Shoodur, or fourth great division of Hindoos.

When it has been agreed on between the parents of two children, to unite them in marriage, the father of the boy goes to the house of the father of the girl, and he presents his intended daughter-in-law, with five pieces of the kernel of a cocoanut, and puts the Koonkoo* on her forehead, and then returns to his home. This proceeding is termed the "Mangnaie," "the Koonkoo," that is, "the asking."

About four months afterwards, or any time within the year, the sukkur poorah or betrothment takes place; the boy's father having provided himself with a few jewels, a choulie, a sary, a phurky, some koonkoo, some cocoanut, about a pound of sugar-candy, and a rupee to place on the girl's forehead, and accompanied by five or six friends, proceeds to the house of the girl's father. Having administered some refreshment to them, the girl's father invites the relations of the family men and women, and a portion of the inhabitants of the village. When they have assembled, the boy's father takes the girl and places her on his knee, he puts a bit of the sugar into her mouth, and then places the clothes he brought with him into her hands, upon which she retires into the interior of the house with her female relatives. Having adorned herself in her new dress, and put on the koonkoo, she returns and places herself near her intended father-in-law who puts the sugar and five pieces of cocoanut into her lap, which she ties in the end of her sary. The father-in-law now places the rupee† on her forehead, which her father takes. The boy's father then presents the Patell and the rest of the people who have witnessed the ceremony with paun soopary (beetlenut) and should the parties be in good circumstances, music is used in celebrating this ceremony which is termed the "shukar poorah," or the betrothment. The same day or the following, the father of the boy and those who accompanied him return to their own homes.

The father of the boy is henceforth obliged to provide the girl

* Koonkoo, this is a rich reddish coloured powder prepared, by steeping the roots of the Turmeric, for three days in plain water, and for three days in lime juice: it is then cut up into small pieces, and kept one day in a solution of sal ammoniac, alum, and lime juice, and when dried it is ground in the hand mill. This married women rub on their foreheads or make a round mark with it, which they always replace after bathing. Widows are obliged to discontinue using the koonkoo.

† This *seals* the contract.

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with what clothes she may require, which is done once in the year. At the expiration of one, two, or four years, when he has accumulated sufficient funds to defray the expense of the marriage, he will go to the girl's father, and tell him, that they must now marry their children. Should her father state, that he has not the means of doing so this year owing to his poverty, the boy's father then offers to lend him such a sum for the occasion as he may require, settling in the presence of two or three of their friends, what money is required to be advanced; the boy's father then returns home, and after a lapse of a few days he brings with him the necessary number of rupees, accompanied by one or two friends.

The parents of both children, and a few of their relations now go to the house of the Brahmun astrologer and having sat down near the entrance ask him to come out. Upon his joining them the father of the girl having announced the object of their visit, informs the Brahmun that his daughter's name* is Oomy, or Bhaggy, and also the boy's name is Goomajee or Khundoojee.

The Astrologer† then consults his Punchung, (almanac,) and will probably inform them, that their nuptials cannot be celebrated in the months of Magh and Phalgoon, for that the configuration of the stars, planets, &c. is such as to prove adverse to its taking place in those two months, ‡ but either in Vyshak or Jesth the day shall be calculated for them. Upon hearing this answer from the Brahmun, the parents return to their respective homes.||

At the termination of the stipulated time, the boy's father repairs again to the house of the girl's father, and tells him to get the required document from the Brahmun. They accordingly proceed to the priest's house, who now makes his caculations and writes on a

* Should the name given when casting their horoscope at their nativity be forgotten, the name they are actually known by is communicated.

† The Astrologer, is termed the Bhutt or Jossy of the village. It is an hereditary appointment and he receives his huk or perquisite as one of the four members of the third or inferior class of the twelve Ballottah. The Koolkurny, holds also the appointment of Jossy, in some villages. My friend Ram Row Baba Sahib the Poorundury chief is Koolkurny and Jossy of the town of Sassoor, but being a man of rank he employs a deputy.

‡ Should the parties be very anxious from some pressing cause to celebrate the marriage in one of the first mentioned months, the Brahmun will inform them that the obstacles in the way may be removed either by Dan, Hom, or Jup. The first is the bestowing alms, the second making a burnt offering when the officiating priest is presented with a fee : and the third is repeating extracts from the Veds and mumbling certain incantations, for which trouble the Brahmun gets a present of six or eight annas or a rupee or two, according to the inclination and means of the parties.

|| It is to be noticed, that it is the Astrologer of the village in which the girl resides who is consulted on such occasions, and that it is always in the house of the bride that the marriage is solemnised.

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piece of paper the names of the party, and the hour, the day, and month are inserted on which the ceremony is to take place. The Brahmun, having put some Koonkoo on the paper, gives it to the father of the girl, who hands it over to the father of the boy. The Brahmun is now requested to inform them of the proper time for applying or rather besmearing the boy and girl with Turmeric, upon which the Brahmun tells them the day they are to apply the Hullud, (Turmeric.) The parties then ask the Brahmun to tell them who is to apply it. It is considered necessary to have a near female relative to begin this ceremony, after which, the others join in it. The priest is presented with four or five pyce and the parties return to their homes.

On the day fixed for going through the ceremony of besmearing the boy and girl with the Hullud, the parents give the necessary directions. Several female relations having assembled, a small quantity of the powder of Turmeric is put into a flat dish and diluted with water. The boy is stripped naked and the mixture applied to the whole of his body, in the first instance by the female relations pointed out by the Jossy, the other women in attendance subsequently assisting her in the operation. When he has been well bedaubed with the mixture, they set to work to wash it off again. Notwithstanding the subsequent ablution, the body retains a yellowish colour, which stains the boy's wearing apparel. During this ceremony, a band of native musicians keep playing in front of the entrance of the house. The Hullud remaining in the dish after the boy has been besmeared is sent to the house of the father of the girl, while music plays in front of the small procession that accompanies it. Should the distance be eight or ten miles, a man is sent with it, but should it be from thirty to fifty miles, the boy's father purchases a small quantity of Turmeric which he gives to the girl's father, at the times, when the Jossy announces to them the day on which the ceremony should take place.

On the same day that the Hullud takes place, a piece of cloth is died yellow with Turmeric likewise a small quantity of Jowary* or Jondly. A hull koond, or entire root of Turmeric, which has a knot, or branch, termed lekurwalla, (that with the offspring) is specially selected on this occasion. Both these articles are tied up in the piece of cloth, which is then fastened round the neck of the stone handmill used for grinding corn. Five married women are now employed to prepare the ghanna, which is about

* Holens Saccharatus.

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a pound of flower, ground from the necessary quantity of wheat, jowary, and termeric, from which a few cakes of bread are prepared, by the same women.

They then procure from a field, five ears of jowary, round which they tie a thread and then cover the bunch (joombra) with some black earth. It is afterwards placed in an upright position, near their household gods, and as it is daily sprinkled with water, it soon vegetates most luxuriantly.

During the time the boy resides in his father's house, after he has undergone the Hullud ceremony, and, until he quits for the purpose of celebrating his marriage, he is invited successively by all his relations, and persons of his caste, and entertained by them. This in fact, to him, is a period of constant feasting; he is attended by music, and his sister, if she is a young girl, or child, accompanies him. Should he be straitened for time, owing to the near approach of the nuptial day, he will partake of entertainments at the houses of four or five of his friends in one day. The feast consists of the most dainty dishes their means will admit of providing. The boy undergoes ablution, and has a little Hullud rubbed on him, in the house of each person, before he sits down to the feast prepared for him.

A temporary shed is now constructed in front of the house; it is formed of a few posts, and some rafters thrown across them, over which a sufficient quantity of green branches of the mangoe tree, oombur or jambool, are spread to afford defence from the weather.

The ceremony of worshipping their household gods is now performed in the mandwah. Four soopary (nuts) are taken to represent their deities, Khundoba, Bhyrobah, Bhugwuntty, (Bhoany,) and Nonllaie. The nuts are consecrated by casting some bhundar and koonkoo over them, and at this time a sheep is sacrificed* in front of the mandwah, to propitiate matters. Two or four are killed, or as many more as the circumstances of the family will admit of, or, according to the number of guests they wish to invite to the evening banquet. During the day, the gooroo, or attendant of the village temple, is required to procure a small branch with leaves on it, of each of the following five trees:† the 1st mangoe, 2d oombur, 3d jambool, 4th rooie, and the 5th soundur or shemy, also a few stalks of the grass called, sooreath, or rossy, which he takes to

* No sheep are killed by the Shoodurs during this ceremony.

† 1st Magnifera Indica, 2d Ficus Glomerata, 3d Calyphranthes, Caryophilli folio, 4th Asclepias Giganticus, 5th Mimosa Suma, 6th Andropogon Schananthus.

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the temple of Hunooman and deposits there. To procure these, the boy's father, an elder brother, or an uncle accompanied by his wife, proceeds to the temple, for which purpose the woman is provided with a basket, in which is placed, a koorhar, (a small hatchet,) and the ghanna bread formerly described; the husband having tied the corner of his own hottur to that of his wife's sary, four men support a spread cloth over their heads, by way of a canopy, under which they move in procession, with music, from the mandwah to the temple, where a soopary (nut) and five betel leaves are placed before the shrine, and blessings supplicated. Then the branches of the mangoe tree, &c. are deposited in the basket, and the party return in the same manner to their home. The contents, of the basket, namely the hatchet, bread, grass, and branches are tied together with a string or piece of rope, and fastened to one of the front posts of the mandwah, five or six feet from the floor. This is what is termed the dewuk or the representation of the superintending powers that preside at nuptial ceremonies.

Early in the evening they sit down to the feast prepared for them, at which a small quantity of arrack is served out: but this is the only meal at which they partake of animal food or spirits, during the continuance of the marriage ceremonies, as the mandwah is considered to be consecrated from the dewuk having been placed there. On this night they have the gondull ceremony, which consists in a recitation and chanting with music of legends, and old stories of some former celebrated Princes. The instruments in use are of three descriptions;—first the sumball, 2d the taall, and 3d toontoona. Previously to the gondull beginning, the boy's father procures five stalks of sugar cane; if these are not to be had, five stalks of jowary are taken as a substitute, and five cakes of wheat bread, that have been fried in oil; to each of the stalks of sugar cane a cake of bread is fastened by a loose string, so that when the bunch of canes is placed upright on the floor, and the lower ends extended to some distance from each other, the cakes become suspended in the middle: a quarter of a seer of bajeeree grain, and the same quantity of wheat is placed on the floor immediately under the cakes. This grain is shaped into a square platform figure, and lines being drawn across from opposite angles to divide it into four divisions, a copper pot, filled with water, is placed on the grain, and a piece of cocoanut, a soopary (nut,) and five betel leaves, are deposited on the mouth of this vessel; one of the gondully's iron lamps is put in requisition and placed near the

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copper pot, after which the gondull ceremonies* commence. Many of the inhabitants attend during the performance of the gondull; a particular distribution is subsequently made of the canes and cakes of bread,† &c.

It must be stated, that the father of the girl erects a mandwah, or shed, in front of his house, and performs ceremonies similar to all those above related; and on the day fixed for the marriage, or the preceding one, the girl's father raises a platform of earth in the mandwah, which is termed the boulay. It should be seven cubits in length, according to the measurement of the girl's arm. There is a step on the eastern face of this altar, for the convenience of ascending and descending. The boulay is placed as nearly opposite to the entrance of the mandwah as possible, and previously to the arrival of the bridegroom, the village potter brings the huradera; this consists of ten earthern pots of sizes, with covers for two of them: these pots had been beforehand white washed with lime, and sprinkled with some red, green, and yellow colours. The potter places five of these vessels, one above the other, (putting the covers on the mouth of the uppermost,) close to the angles of the altar, on the opposite side to that on which the step is. A large earthern vessel called a runjun, for holding water, is placed near the entrance for the use of the relations and persons of the caste, and a piece of yellow cloth, in which a soopary and a piece of turmeric is tied, is fastened round the neck of the runjun for good luck.

The bridegroom, dressed in his best attire, which is generally red, prepares to proceed with his party to the house in which the bride resides. He has a coronet or chaplet made of paper of a yellow or red colour, ornamented with tinsel, &c. on his head, instead of a turban. This ornament is termed bashinggy.‡ He provides one of the same description to be presented to the bride. It matters not whether the bride's house be in the same village or not. The bridegroom's party quit their home, so as to reach the temple of Hunooman, in the village where the bride lives, about an hour before sun set, on the day fixed for the marriage. The bridegroom always travels on horseback. Having moved in procession, and paid his devoirs at the shrine of Hunooman of his village, armed with his dagger, he mounts his horse, and, surrounded by his friends, takes

* The Shoodurs have this ceremony six or eight days before this.

† The gondully receives a rupee, and food for his trouble.

‡ The Brahmuns do not make use of a bashinggy, all the other castes do. The former wear a mundoly or chaplet of flowers only, while the other castes frequently use both.

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his departure for the house of the bride. When they arrive at the temple of the village where she is, the bridegroom's brother, or a near male relative, who is termed the wurdawah, proceeds on horseback, accompanied by a few friends and music, to the bride's house, to announce the arrival of the bridegroom. The wurdawah is asked to dismount, and invited inside to partake of some food: accordingly a dish of sewy* with milk is placed on a small stool before him, and while he is eating of this fare, it is customary for a young brother or sister of the bride's to approach him for the purpose of playing him some trick, by drawing away the stool gently, and letting the dish fall upon the floor, while they get some peppers (crisp cakes of ooreed) to break over his head and pelt him with, until he is glad to retire from the house. After the wurdawah has rejoined his friends, the bride's father, accompanied by several of his male and female relatives, attired in their best clothes, and preceded by a band of music, go to the temple to pay his respects to the bridegroom and invite him to his house. This party or procession is termed the shevutty. When the shevutty enter the temple, they present the bridegroom, with a turban, a selah, and a pair of shoes. Then the bridegroom taking his dagger in his hand, mounts his horse, and a young sister, or girl (a near relation) is placed on horseback behind him; she is designated by the term kurrolly, and carries on her head a small copper pot containing the joombra (the five ears of jowary which has now put forth luxuriant shoots) Several of the men and boys of the party with chollies, selahs, &c. of bright colours, tied to the ends of their sticks, which they hold upright in their hands, move slowly along in procession with music: the females cast grains of jowary steeped in turmeric at the bridegroom, until they reach the mandwah in front of the bride's house; upon which a female, with a pot of water on her head, comes out of the house to meet the bridegroom.† The mother of the bride having made a lamp of wheat flour paste, and furnished it with oil and a wick, lights it and places it in a brass salver, and going outside of the entrance of the mandwah, and looking at her intended son-in-law, she waves the lamp repeatedly with a circular motion,‡ upon

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* Vermicelle, a very common dish among the natives on festivals, &c.

† They have a verse in which is mentioned what is reckoned fortunate to meet or see out of a house, &c.

‡ It is a very common practice with the females in India, to welcome a popular man or person of rank upon his approaching a village; the wives and daughters of the village watchman, &c. advance to greet him, the elder matron leading the way.

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which the bridegroom presents his mother-in-law with a sary or a chollie, and, dismounting, he enters the mandwah, followed by all his friends. The Brahmun who is to perform the marriage ceremony now enters the mandwah, a short time before which, two small heaps of rice had been placed at a little distance from each other, and near the boulay. The Brahmun gives directions for the sheet or curtain which it is customary to place between the bridegroom (Wurr) and the bride, (Wuddoo,) to be held up by those whose duty it is to do so; and it is placed so as to separate the two heaps of rice. The bridegroom is now made to stand on the eastern one, with his face to the west, and the bride having been brought from within the house, is made to stand on the western heap facing to the east. The bridegroom holds his dagger in one hand, and a cocoanut in the other, and one of his relations stands close by him holding a naked sword over his head. The bride stands with her hands in a supplicatory position, her maternal uncle standing behind her. The Brahmun now repeats the mungulastick formula, (a blessing on the ceremony;) and when the (supposed) moment fixed for uniting the parties in marriage arrives, (the moorth,) the curtain is removed, and the bride gives her hand to the bridegroom. The music begins to play, and guns are fired. The bridegroom is now made to sit down on the heap of rice that had previously been occupied by the bride, while the latter sits on that on which the bridegroom had been standing: all those persons who had attended the ceremony as guests, take their departure after being presented with paun soopary.

The Brahmun takes after this a thread of a very considerable length, which he casts four times round the neck and shoulders of the young couple, throwing the thread round them an equal number of times somewhat lower down and near the loins. He now asks for his customary fee,* which is presented according to the means of the party; after receiving which he breaks the thread, and taking off the upper part first, he steeps it in a solution of turmeric, and then, folding and twisting it, he ties a piece of turmeric root to it, and fastens it on the bridegroom's right wrist. The other half of the thread is fastened in a similar manner round the bride's right wrist. This is called putting on the kunkun or bracelet. The bride's father now places the munic† in the bridegroom's

* A few pyce, if the man is poor, but as many rupees, if rich.

† By the Brahmuns called mungulsootur. It is used by the Hindoos as we use the marriage ring.

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hand. This consits of three or four yellow coloured threads, with two golden beads, and five of dark coloured glass. The bridegroom fastens the munic round the bride's neck, and it is not afterwards removed, unless she becomes a widow. Two silver rings, called jorvee, are put on two of the toes of each of her feet at the same time; after which, the ceremony of kunnea dan, or bestowing the maiden, takes place. A brass dish, or bason, is brought, and a small copper pot with water, which the bride's mother pours out on the bridegroom's feet, and the father-in-law washes them. When they have thus bathed his feet, the bride's mother, bowing down, places her head on the bridegroom's feet, and tells him that she has delivered her daughter over to him. The Brahmun is again presented with a dukshuna, or small sum of money, after which he tells the young couple to ascend the boulay or altar; accordingly the bridegroom takes his bride up, and places her astride* on his hip joint, and advances to the altar, placing his right foot first on the step, and both of them sit down on the boulay, the bridegroom being on the right. Some stalks of sooratie,† or sunkarie,‡ are now brought, and these being set fire to, the home ceremony, or burnt offering is made; this is done in the present instance by the bridegroom's taking some ghee, or clarified butter which he casts on the fire to burn, the bride having so far assisted as to touch his hand with hers at the time. The bridegroom takes up the bride again, and performs the prudukshina, or circumambulates the burnt offering five times, upon which the parties sit down. Shortly afterwards, the Brahmun directs them to go into the house and prostrate themselves before the household gods, and such of their parents as may be inside. However, previous to their moving off the boulay, the Brahmun, or one of their relations, ties the bridegroom's dhottur to the bride's sary; after a little, the knot is untied by one of the female relations inside, when she has obtained a promise from the bridegroom that he will present her with a sary, or a chollie; after which they return and sit down on the boulay. An entertainment, which had been prepared, is now served out to all the relations and persons of the caste, who sit down in the mandwah to partake of it. The bridegroom and the kurrolly (his sister) sit on the boulay, and have a dainty dish or two presented to them; the bride accompanys the other females into the house, for

* Children in India are always carried about in this manner by their mothers, until they have attained the age of two and three years.

† The Citysus Cajan. ‡ The Crotobaria Juncea.

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they all dine inside. The guests now request the bridegroom to begin to eat of the dish he has before him, and he to give them permission to do the same. When they have finished their meal, the guests return to their own homes, those of the bridegroom's party proceed to the janooswarah, or the house allotted for them to remain in during their stay in the place. The bridegroom remains with a few friends all night in the mandwah. The following morning the young couple, being both mounted on the same horse, go to the river or village well, accompanied by music, and after having washed themselves, and the bride put koonkoo on her forehead, they return to the mandwah. Warm water is prepared for both of them to bathe, the bride's sister assisting them in performing their ablutions. The young couple amuse themselves by squirting water from their mouths at each other, and the sister-in-law does not always escape from sharing in the sport; she now brings a soopary (nut) and puts it into the bride's hand, and then pours some water over it, after which, she tells the bridegroom to open the bride's hand, with one of his own, and to take the nut from her, which he does with much difficulty. The bridegroom now holds the nut in his hand, and the bride is told to take it out of his hand, using only one of her own, but being unable to do so, she applies both hands to perform the task. When they have put on dry clothes, and hullud and koonkoo on their foreheads, all the party sit down to partake of some breakfast. The bridegroom and bride eat theirs sitting on the boulay, the women theirs in the inner apartment, or in the mandwah, after the men have finished.

The same day, in general the second of the marriage ceremony, the bridegroom gives an entertainment at the janooswarah to the bride, her relations, and friends. About noon the bride's mother, accompanied by a few female relatives and the village washerman, go to the janooswarah, preceded by music, to invite the bridegroom's party to the mandwah, to see the sary phull (the clothes, &c.) given away. When all the women are ready to quit the janooswarah for the mandwah, in company with the bride's mother, the village washerman spreads a sheet on the ground near the door, and the females walk over this, while the washerman is laying down another sheet; after which, he takes that up over which they have passed, and places it again in front. They progress in this manner all the way to the mandwah, the bridegroom and the male part of the procession following at a short distance. The washerman receives a sary, or a chollie, to present to his wife for his trouble.

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The bridegroom's father takes the following articles with him to the mandwah on a copper platter:—a sary, a chollie, a phurky, a few jewels, paan, soopary, five pieces of cocoanut, five dates, a half seer (a pound) of rice, a seer of wheat flour, and a seer of course sugar. The village Bhutt (a Brahmun priest) is in attendance, and is presented with a rupee or two; this is termed the mandwah khundny or fee. The Patell of the village is presented with a passoury, or turban, or in lieu of this four or six annas, such being his perquisite. To the other Hukdars (Desmoks, &c.) paan soopary is presented. The Dheres and Koley receive a few annas for their labour in bringing firewood, and water; the clothes &c. intended for the bride, are now placed in her lap, when the bridegroom and bride sit down near each other, and all the relations and persons of their caste advance near them in succession, with a few grains of rice in both hands, which they drop on their heads; then taking a pyce, they wave it round the heads of the young couple, after which the pyce is given to the village gooroo, who is sitting close by with a plate to receive the money.

Such of the relations of the bridegroom as can afford to present his parents with turbans, saries, money, &c. do so now, and the relations of the bride present her parents with clothes, money, &c. according to their capability. The bride's father after the above mentioned ceremonies, presents the bridegroom with a small copper pot and a dish. The musicians keep playing in front of the mandwah during all this time; and in the evening the bridegroom and bride, being seated on the same horse, proceed to the janooswarah accompanied by music. Here all the party partake of a feast that has been spread out for them. The bride remains all night in the janooswarah with the bridegroom and his friends, one of her relatives stopping near her. The bridegroom's party, with his young bride, set out the following day for their home, accompanied by a near relation of the bride's. Upon their reaching the temple of Hunooman, with the exception of two or three friends who remain in the temple with the young couple, all the others return to their homes. In the evening the relations and friends assemble, and being provided with torches, &c. they join the party at the temple, when the bridegroom and bride are mounted on the same horse. The procession being preceded by music, advance to the bridegroom's house. This is termed the wurat. The bride remains here eight or ten days, after which she in general returns to her father's house; this depends a good deal on her age, and the distance she

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may have to go. The relation that accompanied her, if a male, gets a turban as a present, and if a female, she is presented with a sary.

The more wealthy Naiks about Poona sometimes expend from three hundred to five and six hundred rupees in marrying one of their children, but in general the marriage ceremony is not so expensive, seldom above forty or fifty rupees, and in many instances, as low as fifteen and twenty-five rupees.

The clothes and few ornaments required for the bridegroom and bride cost from twenty to thirty rupees, and entertaining their friends and persons of their caste, about twenty more, the expense being defrayed equally by both parties. The musicians get about five rupees.

The expenses attending a second marriage (the paat or mhottur) with a widow, including the fee to the Brahmun, and feasting the relations, average from twenty to thirty rupees.

The paat or mhottur ceremony, may be celebrated in any month or day in the year, except when offerings are presented to the manes during the peetur paat, (the krishun puksh or 15 dark nights of the month Bhadrapuddah), provided any of the lucky stars should prove to be luggun nukshutturs, and corresponding with the rules of the paat chukkur.

CHAPTER VII.*

The months in which the marriage ceremonies are celebrated, with other observations respecting lucky periods.—The caste of the boy and girl investigated, whether lucky or unlucky.—Examination into thirty-six properties.—Various calculations on the Nukshuttur and the Zodiacal signs.—The Nukshutturs that are considered auspicious for consummating the nuptial ceremonies.—The Nukshutturs excluded in consequence of the proximity of any evil planet, eclipse of the sun or moon.—The meuirty yeog explained.—Ooapat yeog explained.—The unpropitious conjunctions, or Dugdhu Yeog.—The Amroot Seedh Yeog.—The Nukshutturcha bedh.—The year divided into six seasons, ceremonies postponed on account of an eclipse of the sun or moon.—Earthquakes, meteors, &c.—The Gundants.—Chunda Yeogs Elkargulldosh.—The Waardosh.—Tke Koolick.—The Kuntik Kall

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*** That portion of the Hindoo system of judicial astrology applicable to their nuptial ceremonies, and which I have endeavoured to explain here, has been taken, with a few exceptions, from a Sanscrit work called the Moorth Martind.—In the copy of the work from which it was extracted there may be a few inaccuracies, and I may have failed occasionally in conveying the sense of the original; but as several intelligent Brahmuns and astrologers were consulted in preparing it, I am disposed to think it is tolerably correct.—A few of the rules considered most unimportant have been omitted, and others a little curtailed, under the impression that to the general reader, the subject might seem much too tedious.—Most of the village Jossies can repeat all these proceedings by heart.**

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vellah.—The Kranty.—The Kendall.—The Wukury.—The Punchuk.—Concluding observations.—Remarks regarding their funeral rites.—The naming of their children, with a description of the Oukkur Chukkur, and the mode of determining their names.

The five following months, Margysur, Magh, Falgoon, Vysakh, and Jesth, are those in which the Hindoos solemnize their marriage ceremonies, likewise in the beginning of Ahkhar (Ashar) to the north of the Godavery, and south of the Kristna. But at the temple of Triputty (Ballajee) in the Karnatic, the ceremony may be performed during any day in the year, excepting the peetur paat or fifteen days while offerings are presented to the manes of their ancestors.

Should the boy and girl have both been born in the month of Jesth, the ceremony cannot be solemnized in that month, and should only one of the party has been born in Jesth, it will not be advisable.

During the period of occultation of the planets Jupiter and Venus, no marriages are celebrated, nor during the Anwass, (last day of the moon,) nor at the Sunkrant (the time the sun passes from one Zodiacal sign to another, nor at the Sheowust, when the planet Jupiter is in the constellation Leo,) which takes place once in twelve years.

The class or caste of the boy and girl, also their freedom from fault, or rather their good and evil fortune, is inquired into. This is rather a lengthy examination into thirty-six properties or qualifications said to be derived from the eight following:

1st The Wurrun,	class or caste	possesses	one	property
2d The Wussh	Subjection	do.	two	do.
3d The Bhatara	Constellation	do.	three	do.
4th The Yeonie	Birth	do.	four	do.
5th The Kechur or Ghru	Mischievous	do.	five	do.
6th The Gun Mytry	Indentity	do.	six	do.
7th The Bhukoot	Amity and hostility of the signs			do.
8th The Nardy	Separation	do.	eight	do.

These being added up give thirty-six qualifications.

Now they say the Wurrun is divided in the following manner, allotting three of the twelve Zodiacal signs to each class.

First, To the Brahmun, Pisces, Cancer, and Scorpio.

2nd, To the Ekxchutry they assign Aries, Leo, and Sagitarius.

3rd, To the Vyse they give Taurus, Virgo, and Mukkur, or Capricorn.

4th, To the Shoodur, Gemini, Libra, and Aquarius.

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Should both the boy and girl have been born under any of the three signs allotted to one of the classes, it will be considered a happy conjunction. If the boy has been born under a sign allotted to a class superior to that in which the girl is, the marriage will be reckoned fortunate, but should the sign under which the girl has been born, be allotted to a class superior to that in which the sign of the boy is to be found, the marriage will not be considered auspicious, although such take place. The female, it is said, will under such circumstances rule the roast; certain penance is necessary at the time of the nuptial ceremonies to propitiate matters.

We have another division of the Zodiacal signs to explain the properties of the Wussh, as follows:

1st, Of the nature of man, or formed by him,—Virgo, Libra, Gemini, Aquarius, and half of Sagitarius.

2d, Of the nature of quadrupeds,—Aries, and Taurus. The half of Sagitarius and half of Mukkur (corresponds with Capricornus.)

3d, Of a watery nature, Cancer, and Pisces, and half of Mukkur.

4th, Of the desert, or a wild nature, Leo.

5th, Of the nature of insects, Scorpio.

Should the boy or girl be born under either of the signs as they are classed in the first division, or any of the other divisions, their marriage will be considered fortunate; but if the parties were born under signs classed under different natures, they will only share half the blessings and comforts of the marriage state. It is said strife and enmity, misery and distress, will attend them through life. As Leo and Scorpio are looked upon as being enemies, evil consequences are much dreaded; and an union between those born under them is to be avoided.

The Bhatara. This is determined by a particular calculation of the 27 Nukshutturs or stellar mansions. In the first place, we must count the number of stellar mansions from that under which the boy was born, to that of the girls, and again reckon forward, from the latter to that of the boy's (viewed as a circle); after having ascertained this, the number must be separately divided by nine, and if a balance of equal numbers, as 2, 4, 6, 8, remains after such a division, it is considered fortunate, but if the balance be 3, 5, and 7, such is looked upon as detracting from the fortunes of the party.

We have now to explain the properties of the Yeonie. It is necessary to give here the names of the Nukshutturs, or stellar mansions, observing that in their usual computations they only reckon twenty-seven, although there is in all twenty-eight, that commonly

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excluded being Abeejeet, but enumerated in the present calculation. To each Nukshuttur they assign an animal, then by an analogical comparison between these, they conclude the bride and bridegroom will be happy or otherwise, according to the star under which each was born, and the characteristic disposition and habits of the animals symbolical of them. As we may have occasion to refer in future calculations to the Yeonie, I have numbered the Nukshutturs.

1st	Asswin	represented by	A horse.
2d	Bhurny	do.	An elephant.
3d	Kritika	do.	A sheep.
4th	Rohiny	do.	A snake.
5th	Mirgh	do.	A snake.
6th	Arrudrah	do.	A dog.
7th	Poonurwussoo	do.	A cat.
8th	Pooshea	do.	A sheep.
9th	Asslesha	do.	A cat.
10th	Muggah	do.	A rat.
11th	Poorwah	do.	A rat.
12th	Ootturra	do.	A cow.
13th	Hust	do.	A buffalo.
14th	Cheetturrah	do.	A tiger.
15th	Swatty	do.	A buffalo.
16th	Vysakh	do.	A tiger.
17th	Annooradah	do.	A deer.
18th	Jestha	do.	A deer.
19th	Moolh	do.	A dog.
20th	Poorwah Asshara	do.	A monkey.
21st	Ootrah asshara	do.	A mungooss.
22d	Abbeejeet	do.	A mungooss.
23d	Shrawun	do.	A monkey.
24th	Dhunnista	do.	A lion.
25th	Shuttoo Tarika	do.	A horse.
26th	Poorwuh Bhadrapudda	do.	A lion.
27th	Ootrah Bhadrapudda	do.	A cow.
28th	Reewuty	do.	An elephant.

They now state, that an enmity exists between the tiger and cow, between the horse and the lion, and between the horse and buffalo, likewise between the dog and deer, the monkey and sheep, and mungooss and snake, and the cat and rat, so that a marriage being solemnized between parties that were born under inimical signs,

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cannot enjoy the four qualifications assigned to the Yeonie. Therefore a proportionate degree of unhappiness must follow, when such an unpropitious event occurs.

The Ghru Myttry. This is a calculation connected with the signs of the Zodiac, as they assign to the different constellations of the Zodiac, certain swamys or regents possessing due influence; these are the different planets which they dispose of in this manner.

To Aries and Scorpio	they give	Mars as	Regent
To Taurus and Libra	do.	Venus	do.
To Gemini and Virgo	do.	Mercury	do.
To Cancer	do.	The Moon	do.
To Leo	do.	The Sun	do.
To Sagitarius and Pisces	do.	Jupiter	do.
To Mukkur, (Capricorn,) & Aquarius	do.	Saturn	do.

It is said a certain degree of friendship, indifference, and enmity, exists between these regents. For instance, that the Sun regards Mars, the Moon, and Jupiter as his friends; that he views Mercury with indifference, and Venus and Saturn with enmity.

The Moon reckons the Sun and Mercury her friends, and regards Saturn, Mars, Jupiter, and Venus with indifference.

Mars counts the Sun, Moon, and Jupiter among his friends; he is indifferent to Venus and Saturn, and an enemy to Mercury.

Mercury's friends are Venus and the Sun; he views Saturn, Mars, and Jupiter, in a medium light, and he is hostile to the Moon.

Jupiter considers the Sun, Moon, and Mars his friends; and is indifferent to Saturn, and inimical to Venus and Mercury.

Venus reckons Mercury and Saturn her friends; she is indifferent to Mars and Jupiter, and bears enmity to the Sun and Moon.

Saturn has Venus and Mercury as friends; he is indifferent to Jupiter, and is inimical to the Sun, Moon, and Mars.

Here a reference is made to the Zodiacal signs under which the boy and girl were born. And should it prove that the regent of their respective natal signs are friends, they will enjoy the five qualifications of the Ghru Myttry. But should the one regent be friendly and the other indifferent, they will only enjoy four of these qualifications. And should they be both of a medium, or indifferent nature, they will enjoy only three; should the one regent be friendly and the other hostile, they will only enjoy one of these properties.

The Gun Myttry. This they divide into three divisions, to which certain advantages and disadvantages are apportioned. First, there

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is the Deogun, or divine nature; secondly, the Munoosh gun, or human nature; thirdly, the Rakshuss gun, or the diabolical nature; of the 27 Nukshutturs, nine are appropriated to each of these three guns, or qualities. To the Deogun belong the following Nukshutturs (See the yeonie):Nos. 1, 5, 7, 8, 13, 15, 17, 22, and 28. To the Munoosh gun they allot Nos. 2, 4, 6, 11, 12, 20, 21, 26, and to Rakshuss gun the Nos. 3, 9, 10, 14, 16, 18, 19, 24, 25.

They now say that if the boy and girl were born under stars of the same division, they will enjoy the six qualifications of the Gun Myttry; but one being of the divine, and the other of the human nature, they will only partake of five of these properties; should the girl be of the divine and the boy of the diabolical, they will enjoy only one qualification; but one being of the diabolical, and the other of the human nature, should not be united in marriage, although such an occurrence sometimes happens, when the horoscope of either of the parties has been lost, or through the ignorance of the astrologer it has not been correctly cast, so that great misery and unhappiness, it is supposed, will take place.

The Bhukoot. This depends on a calculation of Zodiacal signs. Reckoning from the sign including that under which the boy was born, to that of the girl's sign, and from the latter to the former, in a forward calculation. It is by no means advisable, that the numbers intervening on either side should be 2 and 12, 5 and 9, and 8 and 6. If 2 and 12 exist between them, they will be doomed to much misery and poverty, and if 5 and 9 exist, they will have no offspring, and should 8 and 6 be the intervening numbers, premature death will be the consequence, but from the even numbers 2, 4, 6, 8, 10, and 12, should 6 and 8 arise, it will prove fortunate.

The only way of escaping from these misfortunes, is the circumstance of the boy and girl being born under the same zodiacal sign, but under separate asterisms; and should they be born under the same asterism, it must be at an earlier or later period of it, not in the same churn or division of time. Secondly, both being born under the same sign, or both having separate signs, but these signs having the same regents, is propitiatory. Even should their signs have different regents, and these should be friends, fortune will favour them. But to remove the evil consequences arising from odd numbers, and 6 and 8 numbers intervening, 2 cows and 16 maashahs of gold (about £ 2) must be bestowed in charity to the Brahmuns, and if the numbers 5 and 9 intervene, a metal dish and a small piece of silver must be given to the priest—in all forty Ru-

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pees value. The Nos. 2 and 12 intervening, they must pay divine honours to the priest, and present him with a small piece of copper and a small piece of gold.

The Narry, or Nardy. This is a calculation on the Nukshutturs, in three divisions of nine Nukshutturs each, as follows, (see the yeonie,) as numbered, including Abbeejeet.

1st, Nos. 1, 6, 7, 12, 13, 18, 19, 24, and 25.
2d, Nos. 2, 5, 8, 11, 14, 17, 20, 23, and 27.
3d, Nos. 3, 4, 9, 10, 15, 16, 21, 22, and 28.

Should the Nukshutturs, both of the boy and girl, be in the first division, the boy will be doomed to destruction if they are married. If both of their Nukshutturs be in the second division, both the girl and boy will suddenly die ; and if both their nukshutturs happen to be in the third or last division, sudden death is prognosticated.

Neither the lunar day on which the girl and boy were born, nor while their natal stars prevail, are to be fixed on for solemnizing their marriage ceremony. In making these calculations it is necessary that these should be carefully rejected. Should the Nukshuttur selected be fortunate, still in the event of the pap ghru (evil planet) prevailing, this Nukshuttur must be rejected.

The following are the Nukshutturs reckoned auspicious for consummating the nuptial ceremonies: Rohinny, Mirgh, Ootura, Hust, Swaty, Annooradah, Moolh, Ootturahshara, Ooturabhadrapudda, and Rewutty.

Whatever Nukshuttur the evil planet Rahoo (the ascending nod) is near, such Nukshuttur is not eligible for solemnizing the marriage ceremony until Rahoo has retired.

Whatever Nukshuttur is dominant the day or night on which a full eclipse of the sun or moon takes place, such is excluded from their calculations for six months, a half eclipse three months, a quarter eclipse one month.

Whatever Nukshuttur Saturn happens to be near, such nukshuttur is excluded from the calculation for four months, or until this planet has retired from it.

Whatever Nukshuttur Mars happens to be near, is excluded from their calculations until Mars has retired.

When the following Nukshutturs coincide with the days of the week set down opposite to them, the circumstance is supposed to produce the most calamitous consequence, and termed Meuirty yeog.

Sunday	having	Annooradah.
Monday	do.	Ooturasharah.

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Tuesday	having	Shuttoo Tarika.
Wednesday	do.	Asswiny.
Thursday	do.	Mirgh.
Friday	do.	Asslesha.
Saturday	do.	Hust.

A marriage therefore is not solemnized on such occasions; and they avoid, as much as possible, commencing any undertaking of a spiritual or temporal nature on such a day.

Next follows the Ootpat yeogs, (portentous of evil;) these are various stars for the days of the week.

Sunday	having	Vissakh.
Monday	do.	Poorwah Ashara.
Tuesday	do.	Dhunnestah.
Wednesday	do.	Rewutty.
Thursday	do.	Rohinny
Friday	do.	Poosh.
Saturday	do.	Ooturra..

There is then the Dugdhu yeog, (the unpropitious conjunction,) for if certain days of the month fall on particular days of the week, it is considered rather inauspicious to commence the bridal ceremony; but it is considered of great importance in other affairs, for instance,

1.	The	3d	falling on a	Wednesday
2.	,,	5th	do.	Tuesday.
3.	,,	6th	do.	Thursday.
4.	,,	8th	do.	Friday.
5.	,,	11th	do.	Monday.
6.	,,	9th	do.	Saturday.
7.	,,	12th	do.	Sunday.

Then follows the Amroot Seedh yeog, which is esteemed a most happy and desirable conjunction (partaking of Ambrosia.) Here again certain Nukshutturs are assigned to certain days of the week.

To	Sunday	we have	Hust.
,,	Monday	do.	Mirgh.
,,	Tuesday	do.	Asswin.
,,	Wednesday	do.	Annooradah.
,,	Thursday	do.	Poosh.
,,	Friday	do.	Rewutty.
,,	Saturday	do.	Rohinny.

The Nukshustur-Cha-Vedh. Under this head we have a list of

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Nukshutturs supposed to possess malign influence, should the boy and girl have been born under them as they are classed below.

Ooturah shara	and	Mirgh.
Bhurny	,,	Annooradah.
Rohinny	,,	Abbeeject.
Muggah	,,	Shrawun.
Rewutty	,,	Ootura.
Poonurwussoo	,,	Moolh.
Shutoo Tarika	,,	Swatty.
Ooturab hadrapuddah	,,	Hust.

If a malign planet approaches either Nukshuttur, no ceremony can be solemnized during this time.

There is a calculation of the Zodiacal signs to be recorded here, which it is necessary to have recourse to when fixing the particular time for celebrating the ceremony. The twelve Zodiacal signs under these circumstances are termed Lugguns (there are 6 during the day and 6 during the night) of conjunction or marriage; and as the day and night is divided into sixty ghutkas, (Hindoo hours,) they apportion a certain length of time to each luggun or sign, as follows:

To	Aries	number of	Ghutkas	4
,,	Taurus	do.	do.	4½
,,	Gemini	do.	do.	5
,,	Cancer	do.	do.	5½
,,	Leo	do.	do.	5½
,,	Virgo	do.	do.	5½
,,	Libra	do.	do.	5½
,,	Scorpio	do.	do.	5½
,,	Sagitarius	do.	do.	5½
,,	Mukkur Capricornus	do.	do.	5
,,	Aquarius	do.	do.	4½
,,	Pisces	do.	do.	4

We come now to a calculation called the Hora, (which corresponds in length of time to the hour of the Europeans;) they allow twelve during the day, and twelve for the night--in all twenty-four. Each hora contains two and a half ghutkas. They apportion the seven planets in rotation to each hora, beginning at dawn or daybreak. The first hora on Sunday or Ruveewar is termed Ruveecha, or that of the Sun; the second Shookur (Venus,) the third Bood (Mercury;) the fourth chundur, (the Moon;) the fifth Shunny, (Saturn); the sixth, Bhrisputty, (Jupiter,) and the seventh

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Mungul, (Mars;) and this is successively continued, so that before dawn on Monday the Bood hora will be about expiring—consequently at daybreak we have the chundur cha hora, the day being Monday or Somewar, Some and Chundur being the common names for the moon. Therefore, if the day begins with any one of the four before mentioned shoobuh ghrus, or benign planets, the ceremony may be performed without incurring any risk of evil consequences.

Should the time fixed for the wedding ceremony prove auspicious by the previous calculations, still, if the sun or any of the planets have passed on this particular day from one Zodiacal sign to another, then the ceremony must be delayed during the following number of ghutkas,—according to the planet that may have so passed.

1st	The	Sun	32	Ghutkas.
2d	,,	Moon	2	do.
3d	,,	Mars	9	do.
4th	,,	Mercury	2	do.
5th	,,	Jupiter	84	do.
6th	,,	Venus	6	do.
7th	,,	Saturn	150	do.

We have next the year divided into six portions or seasons of two months each: 1. Wussunt, (spring;) 2. Greeshm, (hot season;) 3. Wurshu, (the rainy season;) 4. Shurud, (the autumn;) 5. Hemunt, (the cold season of dew;) and 6. Sheesheer, (the cold season.)

Should the time fixed on for celebrating the marriage ceremony take place on the last day of one of these seasons, the ceremony must be postponed for sixty-six ghutkas; that is, deducting thirty-three ghutkas previous to the transition, and thirty-three after it has taken place. The Hindoo day consists of about sixty ghutkas, at times more or less.

When a conjunction of particular Nukshutturs, (the retiring and advancing,) or of Yeogs, or of Teeths, (lunar days,) happen the same day, then a delay of two ghutkas is directed to be made, one ghutka at the termination, and the other at the commencement of each respectively.

No ceremony takes place for three days previous to an eclipse. When the sun or moon have been eclipsed, the ceremony is to be delayed, as follows, according to the extent of the eclipse.

One authority says,	Another authority says,
¼ of eclipse for 3 days	1½ days

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$\frac{1}{2}$	,,	,,	,,	4	,,	2	,,
$\frac{3}{4}$	,,	,,	,,	6	,,	3	,,
Full eclipse			,,	8	,,	4	,,

Should any uncommon phenomenon take place, such as an earthquake or lightning, striking a house, &c. the ceremony must be delayed for seven days. And if a meteor has been seen, a delay of seven days is required. Should any persons be killed, or houses burnt by lightning, a delay of seven days must be observed. And if a comet makes its appearance on the fixed day, the ceremony must be put off to some future and more auspicious day.

The Bhudra is a particular astronomical period. It is said that on the 3d and 10th of krishun puksh, or the 2d or dark half of the moon, the Bhudra maintains his power for the latter thirty ghutkas of each day, in consequence of which the first thirty ghutkas are only available as possessing auspicious qualities. The 7th and 14th day of krishun puksh possess the same qualities, only that the latter thirty ghutkas are propitious.

The first thirty ghutkas of the 4th and the 11th of shookul puksh, or the light half of the moon are fortunate; also the last thirty ghutkas of the 8th and poornimah, or full moon, are equally lucky.

The following are termed the Nukshuttur Gundant, (inauspicious conjunctions,) namely, Asslesha, Jesth, and Rewutty. A delay of four ghutkas must take place when fixing the time for consummating the ceremony. In this manner, when one of the asterisms is disappearing, the two last ghutkas, and the two first ghutkas of the advancing asterism, are to be rejected.

Next comes the Teethy Gundant. These are the 5th, the 10th, and 15th, or full moon; a delay of one ghutka at the termination of each of these three lunar days, and one ghutka at the commencement of each suceeding day, is required to be made—in all of two ghutkas.

There is then the Luggun or Zodiacal Gundant. The three signs, Scorpio, Cancer, and Pisces. The ceremony must be postponed for half a ghutka at the retiring of one of these signs, and half a ghutka at the approach of its successor—in all a delay of one ghutka.

After this we have the Chunda Yoodh's. The following yeogs are considered unlucky, the Saddia yeog, Veetypaat, Vyddritty, Hurshun Sheooll, and Gunj yeog. So that when one of these yeogs has terminated with one of the lunar Nukshutturs, and another yeog begins its course with the same lunar Nukshutturs, this Nukshuttur is termed the Chunda Yoodh, and is therefore rejected from their calculation.

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The Ekkargul dosh. This is a calculation partly on the lunar Nukshutturs and the yeogs, by the Sun passing through the path of the Nukshutturs. They assign one of the lunar or daily Nukshutturs to every half month in the year, occasionally a little more or less, so that the Nukshuttur which presides over each fortnight is termed the Mha Nukshuttur. Again they reckon six of the yeogs in the Ekkargull dosh, viz. Vishkoomb, Hutty gund, Sheool gund, Nustuhgund, Veeagund, and Wujjur; these are called the Deoor yeog. To discover if the time is favourable, it is necessary to reckon the number of Nukshutturs forward from the luggun or daily nukshutturs to the Mha Nukshutturs or solar one; and if the intervening number be an even number, and if at the same time one of the six Deoor yeogs prevails, the period will be considered lucky; but on the contrary, should the number between the luggun Nukshuttur and the Mha Nukshuttur prove to be an odd number, and a Deoor yeog prevails, it will be termed the Ekkargull dosh, and evil consequences will be dreaded.

The Waardosh, (evil of the day.) In the waardosh a delay of a certain number of ghutkas takes place, reckoning time from sunrise.

1st, Monday. The first 16 ghutkas are lucky, the succeeding 2 are unlucky, the rest fortunate.

2d, Tuesday. The first 12 ghutkas of night unlucky, and the rest lucky.

3d, Thursday. The first 22 ghutkas lucky, the 2 following unlucky, and the rest fortunate.

4th, Friday. The first 16 ghutkas lucky, 2 unlucky, rest fortunate.

5th, Saturday. The first 2 ghutkas unlucky, all the rest lucky.

The evil consequences resulting from the unlucky ghutkas of Sunday and Wednesday disappear in the calculation of the Yeeamarddosh. The Yeeamarddosh, (the evil of the watch.) The proceedings here are much the same as those of the Waardosh, only that the length of the unpropitious period of each day is of equal duration.

Sunday, the first	12 ghutkas lucky,	the next 4 unlucky.
Monday,	24 lucky	4 do.
Tuesday,	4 do.	4 do.
Wednesday,	16 do.	4 do.
Thursday,	28 do.	4 do.
Friday,	8 do.	4 do.
Saturday,	20 do.	4 do.

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It is added, that no penance will remove the evil consequences.

After this comes the Koolik, another inauspicious period. On a sunday, the 14th moor'th, during the day time is termed the Koolik, and in consequence a delay of two ghutkas is required to be made, and the 13th moor'th, during the night is rejected; each moor'th is equal to one 15th or about two ghutkas. On a monday, the 12th moor'th, during the day, and the 11th during the night, are rejected. On tuesday the 10th during the day and the 9th moor'th at night. On wednesday the 8th, during the day and 7th at night. On thursday the 6th during the day, and the 5th at night. On friday the 4th during the day and the 3d at night. Saturday the 2d, during the day and the 1st, at night. I may remark here that the calculations of the Kall, the Kuntuk, the Yemgunth, resemble those of the Koolik. The Kall velah is reckoned from thursday. The Kuntuk velah, from wednesday, and the Yemgunth from friday. These three periods do not occur at night, although the Koolik takes place during the day and night.

We have now a calculation which refers to the Zodiacal signs, here termed lugguns, (and before explained.) Should the Moon be in the 1st, the 6th, 8th, or 12th constellation from the luggun fixed on for celebrating the ceremony, it must consequently be postponed, otherwise much evil is dreaded. Venus must next be in the 6th constellation from the named luggun; however, should Venus be in the 4th or 5th from it, the ceremony may be performed, as it will not be considered unlucky. Rahoo being in the 4th constellation from the named luggun it will be unlucky, and if Mars is in the 8th constellation, it will be equally unfortunate; but should the benign planets be so situated as to remove the malign influence, they proceed with the ceremony: however, to accomplish this, they must be placed as follows.

If Venus happens to be in the 6th sign, namely in Virgo, no danger is to be apprehended, for the sign Virgo is looked upon as being inferior or below Venus; even should Venus be in Leo, Cancer, or Sagitarius, although they are at enmity with Venus, no danger is to be apprehended. Yet, under other circumstances the latter coincidence would be considered unpropitious. Should Mars be in either of the constellations, Virgo or Gemini, while they are the 8th from the named luggun, (although these two bear enmity to Mars,) no evil is to be dreaded, neither is it of any consequence, should Mars be in Cancer, if it is at the time the 8th distant from the named luggun—for Cancer is below Mars—and should Mars

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be in a state of immersion, it will be of no consequence. If the moon during the shookull puksh (or light half) be in the 6th or 12th constellation from the named luggun, no bad consequence will result, provided any one of the divisions of the Shoobah gruhs or propitious planets is viewing the moon, and it be all potent. To whatever Zodiacal sign the moon is propitious, should Jupiter or Mercury be in that constellation at the time, it will prove singularly fortunate. But should it be otherwise, and an evil planet be in the constellation, matters will turn out unluckily.

The Kranty. This is in allusion to the declination or distance from the equator, and supposed to affect the constellations in the following order respectively. Aries and Leo, Libra and Aquarius, Taurus and Mukkur, Cancer and Scorpio, Virgo and Pisces, Sagitarius and Gemini. Whatever day the sun is in one of these constellations, and the moon in the corresponding one, as they are here classed, it will be reckoned unfortunate.

The Kendruh. The Moon, Mercury, Venus, and Jupiter, are said to be in the Kendruh or Kuntuk (favourable position) when they are either in the 1st, 4th, 7th, or 10th constellation distinct from the named luggun. When these four planets are in the 5th and 9th constellations, it is termed the "Kone," and the period reckoned lucky.

Now we have the Kurtury. If on the day fixed for the ceremony the moon or the named luggun, has an evil or unpropitious planet placed on either side of her, that is either in the 2d or 12th constellation, it will prove unfortunate, or the Kurtury dosh will exist. But again, certain configurations will tend to remove the evil consequences. For instance, if Jupiter be the 12th constellation from the named luggun, and the benign planets Venus and Mercury are in the luggun fixed on for the ceremony, and the Moon in the 2d distant from it, no harm is to be apprehended. Should one of them only be in the named luggun, it will be termed the Samun Kurtury, and no evil will be dreaded.

Then comes the Wurkury. If the moon is in the 2d sign from the named luggun, and an unpropitius planet is also there, and it retires or retrogades, as Mars from Pisces to Aries, and an evil planet in the 12th constellation is advancing, then great danger is to be apprehended, and it is termed the Muhut Kurtury. It is to be stated, that if a lower evil planet be in the 12th constellation, and a lower planet in the 2d one, then the danger is removed.

A calculation of a singular, (and to them of rather an important)

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nature, of the Zodiacal signs, and Lunar days, follows, termed the Punchuk, (unpropitious.)

They have it that the twelve Zodiacal signs, or lugguns, corresponding with the twelve months of the year, are divided off into an allotment of six signs during the day, and six during the night; and that the sun always sets during the continuance of the seventh sign—for they allow an unequal number of Ghutkas to the duration of each sign, and determine the sign the sun sets in from the one in which he happens to be in any particular month, as he is said to rise in that sign each morning. Then they always count up how far this sign (in which he sets) is from Aries, (mesh)—for Aries is invariably the sign employed in this calculation—and if they find it stands eight, they go on with their calculation, which they do by adding the number of the preceding lunar day (the Teeth) of the month fixed on for the ceremony, to the number obtained by the previous calculation, and this total they divide by 9, and if there should be a remainder of one, they call it the Mieurty Punchuk, or certain death.

If after this division by 9 a balance of two remains, it is termed the Aggny Punchuk, (fire destroying.) If 4 remains, we have the Raj Punchuk. If 6, we have the Chor Punchuk. If 8, we have the Rogh Punchuk.

Now should the Rogh Punchuk prevail during a sunday night, the ceremony cannot take place, but it may be celebrated during the day.

If on a thursday the Chor Punchuk takes place, going out during the night to any distance is to be avoided.

When the Mieurty Punchuk happens, no ceremony takes place during the day or night.

Yet they say that should there be a pressing necessity for consummating the ceremony on the wished for day, that the evil consequences of the Punchuk will be removed by certain stars proving auspicious at the time.

For instance, if the four benign planets be in the named luggun, no evil consequences are to be apprehended. Besides, it is written in the Jattuk Shaster, that if the Swamy or Regent of the particular sign or luggun is visible to the planet Venus, and if both be in the same constellation at the time, no danger is to be apprehended.

If at the fixed time for the ceremony, the moon be in the 2d, 3d, or 4th constellation from the named luggun, matters will be considered fortunate.

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Then follows a calculation connected with the Zodiacal signs and the Regent's or Swamy's, which is termed the Ounshes or degrees. It is desireable to secure six properties to render every thing fortunate—four is absolutely necessary—and if this number cannot be realized, the ceremony must be deferred till a more lucky time. For the entire proceeding is one of great importance with the Brahmuns.

The six divisions are as follows.

1. The Ghru,
2. The Hora,
3. The Dreshkan,
4. The Nuvamaounsh,
5. The Dwadushounsh,
6. The Trewushounsh,

1st, The Ghru. If the regent of the named luggun be a Shoobah ghru or propitious planet, one portion of the alloted six qualifications is obtained.

2d, The Hora is equal to fifteen Ounshes or degrees, consequently two to one luggun: so that of each lugguns two horas, one is assigned to the sun and the other to the moon. The lunar ones are considered propitious while the solar ones are looked upon as being the reverse. To the lugguns called the odd ones, (as 3, 5, 7, &c.) the solar hora is allotted to the first half: so that the last half is the fortunate one, the lunar hora being assigned to it. And to the lugguns of even numbers (as 2, 4, 6, &c.) the lunar hora is assigned to the first half: so that of these numbers the last are unlucky, from the solar hora being allotted to them; if the calculation corresponds, one of the six properties is obtained. The Dreshkan is equal to one third of a luggun (or sign) or ten ounshes, or ten degrees. Should the named luggun (that of the ceremony) come within the limits of the first Dreshkan, and if the regent of the named luggun be a propitious planet, one wurg or qualification is attained. Secondly, should the named luggun come within the second Dreshkan, and the regent or swamy of the fifth luggun distant from the named one be a propitious planet, one property is gained. Thirdly, should the named luggun be within the third Dreshkan, and the regent of the ninth one distant from it be a fortunate planet, one property will be gained.

The Nuwa Maounsh. Should the named luggun be Aries, it will be necessary to reckon 9 forward from Aries, which will bring us to Sagitarius. 2d, If the named luggun should be Taurus, it

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will be requisite to reckon 9 from Mukkur (corresponds with our Capricornus) forward, which brings us to Virgo. 3d, Should it be Gemini, we must reckon 9 forward from Libra, which will bring us to Gemini. 4th, If the named luggun be Cancer, we must reckon 9 forward, and we get to Pisces. 5th, Should it be Leo, we count 9 forward from Aries, and we get Sagitarius. 6th, If it be Virgo, we count 9 from Mukkur, and get Virgo. 7th, If it be Libra, we reckon 9 from Libra, and get Gemini. 8th, If it is in Scorpio, we count 9 from Cancer, and we get to Pisces. 9th, Should it be Sagitarius, we are to reckon 9 from Aries, and we get Sagitarius. 10th, Should it be Mukkur, we are to reckon 9 from Mukkur, and we get to Virgo. 11th, If it be in Aquarius, we must reckon 9 from Libra, and we reach Gemini. 12th, And if the named luggun be in Pisces, we must reckan 9 forward from Cancer. They now ascertain, by a very peculiar calculation, (unnecessary to explain here,) in which 9 is the divisor, if the regent of the 9 luggun or ounsh, or any one of the intermediate ones, be the most fortunate, and determine accordingly. Should it be so, one other qualifications is secured.

Then the Dwadush Ounsh is examined. In this calculation the divisor is 2½. The number arising from dividing 30 ounshes by 12, (the signs,) give 2½ to each luggun. It is necessary to count twelve forward from the named luggun, and having the fixed luggun and time, they ascertain all the unlucky Ghutkas, and reject them, and afterwards proceed to determine if the moment be lucky for the ceremony being performed, in the same peculiar manner as that for the Nuwamaounsh; and if all turns up well, another property is gained.

The Trewushounsh. This is a further examination into the ounshes, or bhaggs, or thirty degrees to one luggun. Should the named luggun be an even number, the first 18 degrees are said to be fortunate, and the remaining 12 are unlucky; and if the named luggun is an odd number, the first 10 degrees are considered unlucky and the last 20 degrees fortunate. By matters being so settled another qualification is secured.

They consult the water clock, or clepsydra, by watching the movement of the cup after they have put it into the water, and to which they pretend to attach very great importance, drawing omens from its moving to the north or south, the east or west; and the quarter in which it settles and sinks, for all these trifles, are most minutely attended to.

The Dreest dosh. It is stated, that each of the planets beholds

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one quarter of the 3d, and one quarter of the 10th constellation distant from whatever sign such planet happens to be in, but that the whole of the 3d and 10th constellations are visible to Saturn from whatever sign he may be in. It is now desirable to ascertain if the regent or swamy (planet) of the named luggun (constellation) is so situated as to behold the luggun on the fixed day: if so, it will be considered fortunate and the bridegroom will be very happy. If the regent of the 7th sign from the named luggun, can behold the 7th sign on the day of the ceremony, the bride will enjoy great happiness. There are several calculations included in this, but not inserted, as it would lengthen the chapter too much.

The Lutta dosh. This is what is termed the repelling evil, and which they anxiously wish to avoid; it is calculated on the benign and malign planets, and the lunar Nukshutturs. For instance, they say that the Sun repels the 14th Nukshuttur in advance from that one near which the Sun happens to be, and that the evil influence remains while the Sun is in that position. On the day of the full Moon, the Moon is said to repel the 7th Nukshuttur from the Nukshuttur of that particular day. Mars is said to repel the 3d Nukshuttur from the one he is near. And Mercury repels the 22d Nukshuttur. Jupiter repels the sixth, Venus repels the 24th, and Saturn repels the 8th Nukshuttur in advance from the one he is near, and the Rahoo and Ketoo repels the 20th Nukshuttur, counting backwards from the one near which they are.

The Wuddoo dosh, (or evil attending the bride.) During one year from the period of the consummation of the marriage ceremony, calamities, it is said, will befall particular persons related to her, under particular circumstances, and it is therefore necessary to avoid them. For instance, if the bride resides in the house of her father-in-law during the month of Jesth, and if she happens to see her husband's eldest (jet) brother any day of this month, it is stated he will suddenly die; and if she remains there during the month of Ashar, and she sees her mother-in-law, the old lady will experience a similar fate; and if during her stay there the Dhoondy or additional month occurs, her husband will expire immediately. Again, if she continues there during the month of Poosh, her father-in-law will forfeit his life; and should she continue to reside there during the month of Chytur, her own father will die; and if she should be residing in her father-in-law's house during a diminished month, when a decrease of the digits of the Moon takes place, she herself will expire.

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When celebrating the Paat, mhottur, or second marriage, they consult the Paat Chukkur: no months or particular days are attended to, except the Peettur Paat. They calculate how far distant the lunar Nukshuttur is from the solar one. Then they say the four first are unlucky, but that the two succeeding ones (the 5th and 6th) are fortunate, provided they are luggun Nukshutturs, or propitious, and therefore available for celebrating the nuptial ceremony. After these six (7th, 8th, &c.) Nukshutturs are unlucky, but the three succeeding ones lucky, if they prove luggun Nukshutturs: then follow three unlucky and three of a medium property; afterwards three fortunate, and again we have three unfortunate. This is all that is attended in the Paat ceremony.

It is necessary that I should here remark, that many of these calculations (termed by them Ghutkas) are at times neglected in arranging the ceremonies of the lower classes, and that they are chiefly attended to only by the higher castes, and by persons of wealth, and those who are anxious to celebrate the nuptial ceremony during the day time; for, latterly, it has become the general custom to perform the ceremony exactly at sunset among the Shoondurs, the mixed classes, and poor Brahmuns, when pressed for time, and consequently termed the Godool Luggun, from the cattle returning to their homes at that hour, and much dust arising from their approaching the village gateway all about the same time.

In conforming to the rites of the Godool Luggun, it is requisite to avoid five doshes or evils, namely, the Koolik, the Kranty Samun; and when the Moon is either in the first, the sixth, or eighth (daily signs) lugguns at the time the Sun is setting, the marriage ceremony is not to be solemnized: nor if Mars is in the eighth luggun.

The Jossies say, that if the Shasters (meaning the entire regulated ceremonies) were attended to, as they should be on all occasions, poverty and distress would not be so prevalent among the poor Brahmuns. The truth of the observation cannot be denied.

There is nothing singular or scarcely worthy of being recorded respecting the funeral rites, or the ceremonies at the birth or naming the children of the Ramoossies, which differs from the other lower tribes of the Hindoos. They bury their dead, placing the body in the grave at full length, and sometimes in a sitting posture, the head to the south, and feet to the north, the face rather inclined to the east.

When a woman is confined to her bed from the pains of travail, her husband places an arrow at each corner of the bed, and one near

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her head; however, as they have seldom such a thing as any arrows by them, they substitute pieces of jowary straw about a cubit in length, with a large cockspur thorn stuck into the end of each. On the fifth day, when the mother and infant bathe, certain ceremonies are performed to propitiate the goddess Sutwaie(a derivative of Devy)* and who presides over obstetric duties. On this occasion the arrow deposited at the head of the bed, is transferred to the bath for the time. The arrows are removed on the twelfth day, when the mother in general returns to discharge her household duties.

In the course of a day or two, or at all events, within a fortnight from the birth of the child, the father waits on the Jossy or village astrologer, to ascertain what name he is to give to his child. The Jossy having learnt whether the child is a male or female—if a boy, after a little time, he says that he is to be called Ramjee, and if a girl, her name is to be Bheemy. Should the father be a person in very poor circumstances, he will give a pyse† or two to the Jossy, and probably a seer of grain. Before the Jossy determines the name, it is necessary that he should not only know the day, but the particular watch during the day or night in which the infant was born, to enable him to establish in what churun or quarter of the Nukshuttur it happened. This having been accomplished, he refers to the Aukkur Chukkur, which all the Astrologers can repeat by rote, and finding that the boy was born during the third churun or division of the Nukshuttur cheetra, he is to be named Ramjee, and if a girl her name is to be Bheemy, as she was born during the fourth churun of the Nukshuttur moell. The 28 Nukshutturs,—each of them preceded by four monosyllables, constitute the Aukkur Chukkur. In this manner, Choo, Che, Cho, Laa, Asswiny, as each Nukshuttur occupies about six ghutkas‡ of time, each churun or quarter has about fifteen ghutkas, (nearly six hours) one of these monosyllables is allotted to each churun, so that if the child was born during the fourth churun and was a boy, he would be called Laaroo. The particular monosyllable becomes the first syllable of the name to be fixed on. However in the Dekhan this name is scarcely ever used except du-

* The Juno Pronubo of the Romans.

† When it is wished to have a record of the horoscope and name;—also the future fortune of the child told, it is necessary to reward the Brahmun for his trouble, and a rupee or two is presented to him, sometimes five and ten rupees; wealthy persons bestow larger sums. The astrologer that calculated the horoscope of the Peshwah Mhadeo Row, who was born on the Purundur hill, received thirty begahs of land in enam.

‡ The period of each Nukshuttur varies from 54 to 65 ghutkas.

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ring the marriage ceremony. On the twelfth day, when they place the infant for the first time (if a girl) in the cradle, or if a boy on the thirteenth day, the mother gives the infant the name of some god or goddess, or that of some of their ancestors. This is the name by which the child is known by through life. Unless they subsequently call the boy by one of the familiar and common, but at the same time respectful appellations of Baba, Nana, Dada, Tatiah, Appa, Kaka, Bhow, Naik, or Row Sahib. The Mharatta and Konkany Brahmuns never mention their Junnum puttur name in public. They repeat it daily in private when worshipping their household gods.

It is known to such persons as have intercourse with the natives, that a Hindoo is not in the habit of mentioning his wife's name in conversation, or when speaking to her, and that the wife is equally, if not more, scrupulous than the husband, in this respect. Any thing to the contrary is reckoned highly indecorous.

It would be almost endless, and at the same time useless, labour to attempt to explain all the supposed consequences arising from the calculations connected with their system of judicial astrology. I shall finish by subjoining a copy of the Aukkur chukkur before alluded to, and adding a few remarks regarding some of the Nukshutturs.

THE AUKKUR CHUKKUR.

Choo	Che	Cho	Laa	Asswiny
Lee	Loo	Le	Llo	Bhurny
Au	Eh	Oo	Ay	Kritteka
Oh	Waa	Wee	Woo	Roheny
Be	Bo	Ka	Kee	Mirgh
Koo	Ghu	Ghnu	Chu	Arruddhra
Ke	Ko	Ha	Hea	Poonurwussoo
Hoo	Hey	Ho	Daw	Poosha
Dee	Doo	De	Do	Asslesha
Maw	Mee	Moo	Mey	Muggah
Mo	Taw	Tee	Too	Poorwah
Te	To	Paw	Pee	Ootraw
Poo	Sha	Nna	Thaw	Hust
Pey	Po	Raw	Ree	Chetra
Roo	Rey	Roo	Taw	Swaaty
Tee	*Two*	*Tey*	*Toh*	Veeshak
Na	Nee	Noo	Neh	Aunooradah

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No	Yeea	Ee	Yoo	Jestha
Yeh	Yo	Bhaw	Bhee	Mooll
Boo	Dhaw	Phaa	Dwhaw	Poorwashara
Bhe	Bho	Jaw	Jee	Ootrashara
Joo	Jeh	Jo	Kha	Abbyjeet
Khee	Khoo	Kheh	Kho	Shrawun
Gaw	Gee	Goo	Geh	Dhunnesta
Go	Saw	See	Soo	Shuttootarike
Seh	So	Ddaw	Ddee	Poorwa Bhadurpuda
Ddoo	Dneah	Jhaw	Fhaw	Ootra Bhadurpuda
Ddeh	Ddo	Cha	Chee	Revetee

The 28 Nukshutturs are divided off into equal portions to each Zodiacal sign; so that when the Nukshuttur is known they refer to the rass or constellation, and by discovering the day, the month, and year are determined from the Junnum puttur.

The Nukshutturs Mool, Asslesha, Jestha, Veeshak, and the first churun or division of Muggah, are considered peculiarly inauspicious to be born under. It is written, that if a boy is born during the first churun of the mooll, the father will die in consequence, unless the required propitiatory offerings and sacrifices are made.

The evil effects of this birth, it is said, continue for seven years. The consequences attending the birth of a girl are similarly fatal, but the evil influence does not extend in her case longer than three years. If a child is born during the second churun of the mooll calamities of a similar nature wait the mother, and when a child is born in the third churun, all description of property belonging to its parents, will be destroyed, and if in the fourth churun the child will not be longlived. So that burnt offerings and oblations are wanted to satisfy the priests. It is however to be remarked, that during the months Magh, Ashar, Asswin, and Bhadurpuda, the Mooll is considered innocuous.

A child born during the fourth churun of the Asslesha, will entail the most fatal consequences on its father, and if in the third churun it will prove fatal to the mother-in-law. However, the evil influence is to be removed by timely donations.

The Jestha is wholly unlucky; the first and second churuns to the brothers-in-law. Offerings and charity will remove the evil consequences. One of the many ways of trying to remove the evil influence supposed to arise on these occasions, by wealthy persons, is thus; they put the new born babe into a soop, (a basket,) and having selected a good milk cow with a calf, the infant is placed before

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the cow, in order that she may lick it, by which operation the noxious qualities which the child has derived from its birth are removed. The cow and calf are afterwards presented to the priest, who prays that every blessing may be poured down on the head of the donor, that he may long enjoy his health, and possess the power and will of bestowing alms on the needy.

The Nukshutturs, Cheetra, Bhurny, Poonurwussoo, Poosh, Asswiny, Rewuty, and Kritika, are reckoned rather inauspicious, and will entail misery on the infant that happens to be born while they are dominant, or on its parents or relations; but charitable acts will remove the evil.

The Yeogs Veetypaat and Vydritty. The Kalleany Bhudra, Sunkrant, and the Amwass, are considered unlucky to be born under: the gow prussawa or the ceremony of placing the child before a cow is performed for good luck.

It is to be remarked, that we frequently find a considerable discrepancy exists between the writers on the subject of judicial astrology.

(To be continued.)

II.—Illustrations of the Botany and other branches of the Natural History of the Himalayan Mountains and of the Flora of Cashmere. By John F. Royle, F. L. S. and G. S. M. R. A. S. &c.

The recent appearance of three large works on Indian Botany* and the anticipation of a fourth which may be soon expected, induce us thus early in our career to devote a few pages to an article on that subject.

We do this, not only from a desire to gratify public taste so strongly indicated by that event, but from a wish, on our own part, to aid, to the utmost of our power, the diffusion of a science, so worthy of our attention, and in that way assist in removing, the not altogether unmerited reflection cast upon us, that with all India

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* Roxburghs Flora Indica 3 Vols. 8vo.—This work was nearly 20 years in MSS. before publication. It is notwithstanding a valuable work of which unfortunately a few copies only were printed.

2d. Wallizi's Plantœ Asiat: Rarieores 3 Vols. Folio. with 300 coloured plates. The most splendid contribution to Botanical science that has appeared in the course of the present century.

3d. Royle's Illustrations which we are about to notice.

4th. Wight and Arnott's Prodromus Floræ Peninsulæ Indiæ Orientalis. Advertised as nearly ready for publication.

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under our sway, we know little of its natural history beyond what enterprising foreigners have taught us.

We have long considered Botany a pursuit, which would amply repay the trouble of mastering its difficulties, by the gratification it would afterwards afford; but it will do more in an unexplored country like this, where there is a wide field and few labourers, it will reward the diligent by adding celebrity to their names, by the important discoveries they are likely to make, both to mankind and to science. From motives such as these, we hope many, now that they have the means, will be induced to study it, but putting interest out of the question we would recommend "Botany for its own sake, since, as a mental exercise or study for raising curiosity, gratifying a taste for beauty of contrivance, and sharpening the powers of discrimination, nothing can exceed it" To this well merited panegyric we may add, that no branch of natural history has been so much cultivated, or had the talents of so many eminent men devoted to its extension and improvement. Nor is this to be wondered at, when we bear in mind that to the vegetable kingdom, man, even in his rudest state, is largely indebted for his food, clothing, shelter, and medicine: how much more in a high state of civilization, can only be estimated by those who are acquainted with the thousands of necessaries, conveniencies, and luxuries of life, we derive from plants.

The better to enable our readers to follow us in our after remarks, we shall devote the first part of this article, to a concise view of the objects of the science, and then proceed with our review.

Botany may be divided into two principal branches, economical, and systematical or practical Botany. To the first belong agricultural and medical botany; both taken in the widest sense of the terms: to the second, the anatomy, physiology, classification, description, and geographical distribution of plants. The first treats of the cultivation of those plants from which products useful to man are procured. The second teaches; 1st, The structure or oganization of plants; 2d, The functions which the different organs perform, either in supporting life or in elaborating those principles which render them useful or otherwise to mankind; 3d, The rules by which they have been methodically arranged and distinguished from each other; and 4th, The laws which regulate their distribution over the surface of the globe.

From this enumeration of the objects of the two branches, it must be evident, that though the first is the most cultivated and most

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important to mankind, yet, that it is far from being independent of the second, since considerable knowledge of vegetable physiology is required to enable the cultivator to turn it to the best account; in other words, it is necessary to combine both science and art, since it is well known, that the same plants differently cultivated often possess different properties, a fact which physiology alone enables us to explain.

To the medical botanist an intimate knowledge of systematic botany is indispensible, as it is certain, that plants agreeing in external form, and having a similar structure of seed,or in other words, plants belonging to the same *Natural Order* possess similar properties. This fact now well ascertained, proves that this hitherto, except by botanists, much despised and little understood part of botany, is in truth a most important branch of the science, since it often enables us at a glance to determine, whether we may safely use plants otherwise unknown to us, or whether we ought to reject them, on account of their belonging to orders having none, or many poisonous species; as well as assists in so directing our enquiries, as to lead to the discovery of properties that might otherwise have escaped observation.

Systematic Botany by teaching us to discover the name of an unknown plant, enables us at the same time to discover its uses and properties, so far as yet unknown, and to make known such as we ourselves have learned, in such a way as to ensure their not being lost again; and by teaching us to describe a plant correctly, enables us to make known to systematic authors, such new plants as we may ourselves discover. In doing so, we ought to add to the description, notes on their useful properties, and the mode of procuring them, native names written, if possible, in both Roman and native characters should accompany. These however are not to be implicitly relied upon, as a means of again procuring the plant, for it often happens, that a plant has different native names, and still oftener, that the same name is given to different plants. In this country a native name, written in Roman characters only, is generally useless for discovering a plant not otherwise known, as natives can seldom read it, and it is next to impossible to convey to one unacquainted with them, the sounds of one language, by the symbols of another. This is an almost insurmountable obstacle to their use, rarely adverted to by those, who strongly advocate the introduction of vernacular names into Botanical works, under the impression, that they may be useful to future travellers. Influenced by these considerations, we would suggest that the greatest care should be bestowed on the se-

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lection of Roman letters, employed to represent the native sounds, carefully marking those that are sounded long or short &c. and that the same name distinctly written in native characters should, if possible, always accompany. Specimens of the plants in flower and fruit, should also be preserved, as any botanist can with them verify the description, and determine their places in the system of plants.

It appears from what has now been said, that systematic Botany is the key which opens to us the accumulated treasures of the science, and is equally necessary to those who would either add to, or take from its stores. This we trust will satisfy those who ask; "why we bestow so much time and study on naming and classifying plants and not rather study their properties and uses;" that the one is labour in vain without the other, since without the name we can neither learn what our predecessors knew, nor tell our successors what we know.

To the agriculturist, a knowledge of the laws which govern the distribution of vegetables over the earth's surface, is of primary importance, if he would endeavour to extend and vary his productions, by the introduction of new plants, we thence learn, that particular orders and genera, as well as individual species, affect particular latitudes, or proportional elevation above the level of the sea; and if we would cultivate them in countries where they are not indigenous we must bear that in mind, and compensate as far as possible by artificial means, for the change to which we subject them. If we cultivate them for the sake of products they afford in their native country, other circumstances require our attention; for it is not enough that we can rear a plant; to make it perfect its products, we must give it a climate approximating in dryness or humidity as well as in heat or cold. The tea plant for example, has been cultivated to a considerable extent in the eastern Islands, but the tea wants the flavour of the Chinese plant; showing that the climate is not adapted though the shrub grows vigorously. Again, the mangosteen* has been attempted to be cultivated at Madras, but unsuccessfully, perhaps on account of the dryness of the climate. We believe it would succeed at Courtallum, and Malabar where the climate is more moist, where several other plants of the same natural order, and even of the same genus grow, and where several plants common to the eastern Islands grow spontaneously, showing a similarity of climate, which is further proved, by the success with

* The mangosteen mentioned by Ainsley as growing on the Malabar Coast is a different species, perhaps *Garcinia Cowa* Roxburgh.

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which the Nutmeg has been cultivated: Coffee of good quality is also grown there, as well as in Mysore. We also some years ago, saw a very thriving specimen of Cocoa or Chocolate plant in Mr. Hughes', garden; might not that plant be introduced into India with as great a chance of success as the Coffee? we think it might, because our climate assimilates in many points with that of its native country, and produces besides many other plants of the same order particularly one the bastard cedar (*Guazuma tomentosa*) also a native of America.

These few examples will show the benefits to be derived from the study of systematic Botany, as well as from Botanical geography, and with them we shall close this very imperfect sketch of the objects of the science and proceed with our review.

Mr. Royle observes in his prospectus, that in no part of India, rich as it is in the productions of nature, is there greater variety, or forms more interesting, than in the Himalayan mountains. "Their western bases resting on the arid plains of India, abound in all the animal and vegetable forms which are characteristic of tropical countries, while their gradually elevated slope, which supports vegetation at the greatest heights known in the world, affords at intermediate elevations, all the varieties of temperature, adapted to the production of forms which are considered peculiar to different latitudes." These having as yet been only cursorily noticed by naturalists, it is his intention to give a connected, and illustrated view, "of the progressive transitions from the productions which are characteristic of the plains of India, and which exist at the bases of the mountains, to those found at different elevations on their acclivities, where a gradual approach is made to the forms common in Europe, America and Japan" noticing as he goes along, the soil, or rock formation in which they exist, the atmospherical phenomena by which they are surrounded, and the animal forms with which they are associated; and as opportunities offer, directing attention to the useful and ornamental plants of the country, as well as pointing out those which Europe might receive from India, or India from other countries. To accomplish these various ends arrangement is necessary, and the one best suited for the purpose, being, from the facilities it affords of comparison with other countries, the Natural System, is that which will be adopted. Such are the leading objects of the work, and if they are executed in the spirit in which they are conceived, it will undoubtedly prove a model, for all future writers, who wish to present a general view of the Flora of a new country.

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He commences his illustrations by remarking that "The introductory observations having enabled us to appreciate the extent and general nature of the territories comprized within the boundaries of India, and shewn the general uniformity, or rather almost insensible gradation of temperature, on which so greatly depends the natural distribution of animal and vegetable forms, as well as those which are the product of art, we now proceed to the more immediate object of the work; that of illustrating the Flora of the Himalaya mountains." On this passage we have to remark, that a part only of the introduction is printed, which is altogether devoted to geographical details, so that we are for a time at least, deprived of much curious information that belongs to the other subjects of which it treats. On this account, we shall content ourselves with presenting a very abridged description of the principal mountain ranges of the peninsula, adding a few things not mentioned in the original.

India is traversed by four principal ranges or mountains, 1st, the western or Malabar Gauts, 2d, the eastern or Coromandal Gauts, 3d, the Vindyha range occupying central India, and 4th, the Himalayas bounding the whole.

The eastern and western ranges commence between 21° and 22° north, in Candish and Orissa. The first of these, with slight interruptions, forms a nearly continuous series to between 16° and 17°, where there is a considerable break, giving passage to the Godavery and Kistnah rivers. Resuming its course from nearly the same latitude, but further inland, it continues in a south and south westerly direction, till it meets the western range and unites with it in forming the Neelgherries. In addition to the Gauts or principal range, the whole of the Carnatic is studded with detached hills, or intersected with smaller ranges, the most conspicuous of which are the Shevaroy and Namkal hills in the Salem district, rising to the height of about 5000 feet. The western Gauts are more continuous, forming a nearly unbroken range from Candish, to the southern declivity of the Neelgherries, where there is a chasm nearly 16 miles broad. This range is nearer the sea, rises higher, and with a more abrupt ascent than the eastern. Between these, the table land of Mysore is supported at an elevation of between 2000 and 3000 feet, and like the Carnatic is studded with detached hills some of them of considerable elevation. The Neelgherries, apparently formed by the union of these great ranges, rise to nearly double the height of either of them, attaining the elevation of 8700 feet above the sea.

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From the south of the chasm above mentioned, and from the still wider one, between the Shevaroy and Pulney hills, the united ranges seem to recommence and continue uninterruptedly to Cape Comorin, forming an irregular triangle, the base of which, in the latitude of Dindigul, is about 60 miles broad, with some of the mountain peaks between 5000 and 6000 feet in height, and covered with the richest and most varied vegetation.

With this very slight notice of the principal mountain masses of the peninsula, we must for want of room, rest contented, remarking however, that we could not pass them over in silence, owing to the great influence mountains exert over the climate and vegetation of a country: subjects in themselves worthy of being fully discussed, but to which we can only refer incidentally in this article.

The plains of Seharunpore, the station occupied by Mr. Royle, in 30° north, are elevated 1000 feet above the sea. These with the lower external ranges of the Himalayas, which rise from them, though so far beyond the tropic, enjoy during one half of the year a tropical climate and vegetation, (herbacious) during the other half, one nearly European; admitting also of two crops in the year, one tropical, consisting of rice &c. the other European consisting of wheat, oats, &c. Tropical trees, and herbacious tropical perennials that die down to the root in winter, are in bloom during the hot season, when the Thermometer rises to 100°: and during the cool season, when the thermometer falls as low as 37°, European forms apparently incompatable with the flora of the country make their appearance. During this season the cold is so great as occasionally to destroy tropical trees, and the Mango when young requires to be protected. Notwithstanding this great degree of cold, most of the tropical plants enumerated as giving a character to the flora of that part of India, are found scattered through the Carnatic, and many of the European forms are natives of the Neelgherries. Hence we think it probable, that the Floras of Bengal and the Peninsula are nearly the same. It is truly interesting, thus to contemplate a flora, extending through nearly 30° of latitude: a fact we believe unknown in any other part of the world. With respect to longitude, it is more confined, the flora of Malabar as compared with that of Coromandel, producing a greater number of distinct forms than that of Delhi. To the eastward again we believe it is equally distinct, a few plants only being common to both countries. One of the few tropical trees common in the north and not yet met with in the south, is the Saul, (*Shorea robusta*) a

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valuable timber tree which might we doubt not be introduced to any extent into our alpine districts.

For the attainment of greater precision in our ideas respecting the vegetation, as connected with the climate of successive elevations, Mr. Royle divides the southern slope of the Himalayas into three belts; the first supposed to extend to between 4000 and 5000 feet of elevation; as several tropical perennials extend to the latter, and snow rarely falls below the former The second belt may be supposed to embrace the space between 5000 and 9000 feet, as the winter snow is always melted before the accession of the periodical rains in May and June, and is nearly the limit to which herbacious plants of tropical genera extends. The third belt includes all between this and the limit of perpetual snow.

The flora of the first of these belts as already mentioned, is partly European, but principally tropical, and extends over a great part of India: that of the second still retains many tropical forms, but the European ones now preponderate. Of both we possess many representatives in our alpine flora as the following lists extracted from Mr. Royle's work will show. It is necessary to premise, that the bounds assigned to these belts are in a great measure arbitrary, for the changes both in the temperature and the vegetation are so gradual, that it is impossible to draw any clearly defined line, a difficulty which is increased by the productions of similar elevations, changing the farther we penetrate into the Himalayas, owing to the line of perpetual congelation rising higher on the northern than on the southern slopes, or rather on the interior than on the exterior ranges, a fact well ascertained, but not easily accounted for. The vegetation also differs on the same range or even mountain, so that a straight line running along the summit of the ridge, may be seen dividing luxurient arborious vegetation on the northern face, from brown barren grassy covering on the southern.

Tropical genera common to the Himalayas and Peninsula.	European genera common to the Himalayas and Peninsula.	European and Himalayan genera not yet found in the Peninsula.	Natural Orders having European genera common to the Himalayas and Neelgherries.
Canna	Ulmus *	Pinus	Ranunculaceœ
Hedychium	Euonemus*	Taxus	Cruciferœ
Commelina	Rhamnus*	Juniperus	Violareœ
Tradescantia	Rhus*	Quercus	Caryophylleœ
Begonia	Ilix	Acer	Hypericineœ
Osbekia	Andromeda	Carpinus	Geraniaceœ
Melastoma	Rhododendron	Betula	Umbelliferœ

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Impatiens	Berberis	Corylus	Valerianeæ
Ruellia	Daphne	Buxus	Rubiaceæ
Justicia	Rosa*	Cornus	(*tribe, Stellatæ*)
Indigofera	Rubus*	Cratægus	Dipsaceæ
Crotalaria	Lonicera	Prunus	Compositæ
Desmodium	Viburnum	Hedera	Gentianeæ
Cassia	Gallium	Sambucus	Primulaceæ
Acacia	Prunella	Caltha	Pediculares
Vitis	Potentilla	Primula	Labiatæ.
		Leontodon	

These lists might be greatly extended, but we think them already sufficiently long to show the many points of affinity between the Floras of these distant countries. The third belt we must pass over in silence, as it has so few points in common with our alpine region that we cannot expect to derive any advantage from its productions, and therefore refer to the work itself, for much curious and interesting information regarding the climate and productions of it, Cashmere, Kunawar, Nepal &c. But before leaving this part of the subject, we would suggest for the consideration of those who have the means and opportunity, that they could not employ themselves better, or confer a greater benefit on the inhabitants, than by introducing to the Neelgherries, the noble pines and oaks of the Himalayas, as well as their Walnut, Yew, Birch, Maple, Poplar, and Cherry trees, all of which, we think, would thrive well and form an excellent addition to both their useful and ornamental trees.

It is right to mention, however, that there is a difference of climate between the two countries, that might be disadvantageous to such an experiment, in so far as the Neelgherries partake of both monsoons, and are consequently covered with clouds and mists during some part of the season when the Himalayas enjoy bright sunshine, and have the sun while the others are covered with snow. This difference might prove injurious to herbacious plants, but not we believe to trees. We however mention the circumstance, to caution such enterprising individuals as may be induced to make the trial, not to be too sanguine, and to warn them of the necessity of sheltering young plants during the changes of the monsoon, till they have gained strength enough to resist them. With this precaution we are confident, they may depend on having their efforts crowned with success. We would also suggest as worthy of trial, the introduction of some of the oaks from Java, the mountains of which island, produce a great variety, some of great size. Does not the Neelgherries or Malabar mountains produce some species of oak,

* These genera are found both on the plains and mountains of the Peninsula.

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since it is found in several places to the eastward? This question we cannot answer, for much as has been said and written concerning these mountains, we have yet much to learn regarding their natural history, which is very imperfectly known.. Unfortunately our ignorance is not confined to these mountains, but extends to those of the whole country. The Circar mountains are represented, by all who have had an opportunity of visiting them, as covered with luxurient vegetation to the top, and some of their higher peaks attain an elevation of about 4000 feet. From this range, two or three hundred miles in length, we are acquainted with only a few hundred plants, most of them from specimens only, brought to Dr. Roxburgh by his plant collectors. The Flora of Salem and Baramahl is even less known to us than that. From the Malabar mountains supposed, and we believe rightly, to possess the richest Flora in the world, and forming a range 700 miles in length, we have scarcely 1000 species, and many of these even, are only known to us through the figures of the Hortus Malabaricus published 200 years ago. The Madura and Tinevelly range are, we believe, with the exception of the outskirts, altogether unexplored. Such being our ignorance of the vegetable productions of our mountain ranges, we will not be surprised to learn, at some future period, that we have been advocating the introduction of trees, that are already natives of the country.

We must now proceed to the last subject we intend touching upon;—the application of the Jussieuan method of arrangement to the elucidation of Botanical Geography;—and hope that our readers will favour us with their attention a few minutes longer as the subject is both curious and useful. It has been already mentioned that plants of the same natural order agree in having similar external characters, and internal structure and properties, they also affect similar soils and climates, and can be grafted on each other. Botanists availing themselves of these facts, have recently founded on them, that branch of the science called Geography of Plants: but as this "department embraces the consideration of the constitution of the atmosphere, and the geological structure of all parts of the globe, and the specific effects of particular climate and soil upon vegetation, all points upon which we can scarcely be said to know any thing," it has not yet made great progress. These points, the discussion of which we cannot now enter upon, are all more or less fully treated by Mr Royle, we therefore pass them over, referring to him for information regarding them.

According to Jussieu's method all plants are divided into three

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great classes, acotyledones, monocotyledones, and dicotyledones. The first class or flowerless plants, includes the whole of the Linnean class Cryptogamia; the other two, or flowering plants, embrace the remaining 23 classes of that system. Supposing it were wished to ascertain the relative proportion these classes bear to each other, either with respect to the vegetation of the whole globe, or any given portion of it, we divide the number of flowering by the number of the flowerless plants and the quotient is the proportion required. The proportion a particular family or genus bears to the flora of a country or of the globe can be thus ascertained, and many, other questions answered which we have not room to particularize. Humbolds estimates in this way, that the proportion of the flowerless to flowering plants within the tropics is 1 to 9; in the temperate zone, 1 to 4; and in the frozen, that they are equal. The proportion of Mono-to Di-cotyledones, is estimated at 1 to 5 or 6 within the tropics; 1 to 4 in the temperate; and 1 to 3 in the frozen zone. Of Dicotyledonous orders, Legumenosœ are said to bear to the whole flowering plants the proportion within the tropics, of 1 to 12; in America; 1 to 9 in India; $\frac{1}{6}$; in New Holland; $\frac{1}{8}$; in western Africa. *Temp. Zone.* France $\frac{1}{16}$; Germany; $\frac{1}{20}$; north America $\frac{1}{19}$; Siberia $\frac{1}{14}$; Sweden $\frac{1}{22}$; Sicily $\frac{1}{7}$; *Frozen Zone* $\frac{1}{35}$. Melville island $\frac{1}{33}$. These examples are enough to show the general principle, which can be followed out to any extent. The Flora of a district can thus be compared with that of the whole country, or with another district; that of the plains with the hills; of the sea coast with the inland districts &c. and may ultimately when the relation between soils and plants* are better known, lead to the most important results. Let us now devote a few lines to the analysis of the Indian flora according to this rule. Estimating the known flowering plants of the globe at 70,000, and those of India at 9000, gives for India within a fraction of $\frac{1}{9}$; supposing again that there are 800 Indian species of Leguminosæ, gives the proportion, of $\frac{1}{11}$ for the whole flora; $\frac{1}{87\frac{1}{2}}$ for the globe: supposing again that there are 4000½ Leguminosæ scattered over the globe, those of India are to those of the globe as $\frac{1}{5}$; this kind of analysis is equally applicable to every order and genus.

We are aware, that in taking 9000 as the amount of the Indian flora, we fall far short of Dr. Wallich's calculation, which, we learn from the article Botany of "The description of India"

* On this subject see Mr. Brown's very interesting paper in the Transactions of the Geographical Society; a paper, which we regret we had not seen, when these observations went to press.

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in the Edinburgh Cabinet Library, written by Dr. Greville, he (Dr. Wallich) thinks may amount to about 60,000 species. This we think much too high. We learn from the same article, that Dr. Wight thinks the flora of the Peninsula may amount to 9000, which is also perhaps, rather too high. It is not however to be concealed, that these gentlemen, found their calculations on the known fact; that the country generally has not been explored, and that we know little of it except along the course, of principal roads and rivers, and almost nothing of the alpine flora, which is always the richest. In proof of this assertion, we may mention, that Dr. Wallich collected in Nepal within an area of 60 miles in circumference, 2500 plants in *one year*. Dr. Roxburgh was engaged upwards of 20 years on his flora of India, and it does not contain more. From the Neelgheries with a somewhat larger area, we have as yet only three or four hundred plants, yet it is probable, when as well explored, that the number will be found nearly equal to that of Nepal; on these grounds, we allow they have good reason for estimating the flora far above what is at present known, and heartily wish them success in their endeavours to prove their estimates correct. We were desirous of comparing, the number of Peninsular spicies, with those of the same orders on the Himalayas: unfortunately Mr. Royle has not considered the subject of much importance, and except in two instances has not mentioned the number of species belonging to each order. This we regret, as after remarking the close affinity existing between the Orders and Genera of the two Floras, we wished to see to what extent they corresponded in the numbers of their, species. He for example gives a catalogue of 72 species of Ranunculaceæ, we only know 13 or 14 in the Peninsula, showing how much this is an extra tropical order, but also leading us to infer, that our deficiency, is partly owing to the imperfections of our collections, as we have at least half the number of genera that he has. Of Dilleniaceæ the number is not mentioned, we have 5 or 6. Of Anonaceæ the Himalayan flora is nearly destitute, while the Indian Flora has about 80 species, twenty of which belong to the Peninsula. The Menispermaceæ are few on the higher hills, and differ from those of the plains. On the lower hills and plains, they are the same as ours, but the number not mentioned. Of Berberideœ the Neilgherries have two, out of six species assigned to India. We learn from Mr. R. that the fruit of two of the Himalayan species are dried like raisins in the sun, and sent down to the plains for

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sale. One of them (*B. nepalensis*) is a native of the Neelgheries and might be so used. Of cruciferæ we have only 5 or 6 species, while the Himalayas possess about 70, showing again how much that is an extra tropical order.

We have now we trust, to the extent that our space would allow, proved to the satisfaction of every unprejudiced mind, that Botany, so far from being what we have heard it tauntingly called " a frivolous pursuit," " a profitless science" " a pretty amusement for ladies" is in truth a science founded on philosophical principles, one from which mankind have already derived many advantages, and from which, now that our modes of investigating nature are improving, they will yet derive many more; and consequently that the time spent in its study could not be better employed, so long as it is not allowed to interfere with the performance of those duties, which our respective stations in life necessarily impose.

With respect to the work which has afforded us a text for so long an article, we must say, that if it has not yet realized all the prospectus promises, it bids fair to do so before it is finished. It is true the chapter on the geographical distribution of the Flora of northern India, shows want of arrangement, and is in our opinion tedious and prolix, faults which might have been avoided by subdivision of the subject, and by throwing the numerous lists of plants which are scattered through the text, into a tabular from, which would have enabled the reader at a glance to have compared, those of one district with another, in place of wading through half a page at a time of hard names: and to have saved repetition he might have numbered the different places treated of, and to each plant added the number of each district where it was found. This defect however, scarcely detracts from the value of the work, which contains a vast mass of valuable information, and is, we suppose, to be attributed to the disadvantages under which Indian authors labour, who go home to publish on such subjects, in being from want of time, obliged to print before their manuscript is completed, preventing their revising, and if necessary recasting it before going to press. Bearing this in mind, and making the necessary allowance for it, we think the work highly creditable to the author, and worthy the encouragement of every lover of Natural history. His remarks on the natural orders are both interesting and instructive, and often display much classical research. Of the plates 18 are Botanical, one Zoological, and one Geological, they are in general well executed, and to the Amateur who purchases the work for study, economical,

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as many of them contain several subjects, (34 plants in 18 plates), which is the more deserving of praise, as it must add greatly to the cost, and detracts somewhat from the appearance as works of art, by making them look crowded. We must now take leave of our author wishing him every success in the prosecution of his work.

III.—*Geology of the South of India.*

To

The Editor Madras Journal
of Literature and Science.

Sir,

I am induced to request that you will give the following quotation from Sir J. Herschel's Introduction to the study of Natural Philosophy a place in your Journal, with the addition of some extracts and remarks, in the hope that they may lead to the communication of original information on the hitherto almost unknown geological constitution of the Peninsula. Herschel observes that "Geology in "the magnitude and sublimity of the objects of which it treats, un-"doubtedly ranks, in the scale of the sciences, next to astronomy; "like astronomy, too, its progress depends on the continual accu-"mulation of observations carried on for ages. But unlike astro-"nomy, the observations on which it depends, when the whole ex-"tent of the subject to be explored is taken into consideration, can "hardly yet be said to be more than commenced." * * * "The spi-"rit with which the subject has been prosecuted for many years in "our own country has been rewarded with so rich a harvest of sur-"prising and unexpected discoveries, and has carried the investiga-"tion of our island into such detail, as to have excited a correspond-"ing spirit among our continental neighbours; while the same zeal "which animates our countrymen on their native shore accompanies "them in their sojourns abroad, and has already begun to supply a "fund of information respecting the geology of our Indian possessi-"ons, as well as of every other part where English intellect and re-"search can penetrate." That the South of India may share in carrying on the investigations so happily commenced in Bengal, to which Herschel alludes, it is necessary that something should be generally known of what has been done in the districts to which we have access; these accounts are chiefly to be found in the Bengal Transactions and Journal, neither of which are much read in this

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Presidency. It does not require any great knowledge of geology to collect facts which may be of great use ; as I experienced during May last year when, in attending to the nature of the soils and of the rocks from the decomposition of which they were formed, with a view to trace their important influence in the production and on the character of disease, I discovered perhaps the richest collection of fossils which has yet been found in India. This is my encouragement to expect, from the many well qualified persons who have abundant opportunities of examining the many interesting districts under this Presidency, communications which may be of important use to science and have most beneficial effects on more *directly* useful pursuits ; I therefore beg you will republish from the Asiatic researches, vol. 18 and Gleanings vol. 1st, the following paper of Dr. Voysey's on the fossils of the Gawilgerh range, which forms the northern boundary of the province which should fall to the lot of the Madras enquirers, and forms an important part of that vast extent of igneous rocks of which the President of the Geological Society in the last anniversary address to that body observed, that they extend over 200,000 square miles, " so that the mind is almost lost in the contemplation " of their grandeur : unfortunately the relative age of these eruptions must remain for the present undetermined, no vestiges of secondary or tertiary formations having been detected within the region described."

On some petrified Shells, found in the Gawilgerh range of Hills, in April, 1823.

By the late H. W. Voysey, Esq.

Assistant Surgeon His Majesty's 67th Foot.

" This remarkable range of hills is called, by Arrowsmith, in his last map, the *Bindeh*, or *Bindachull* (*Vindhya* or *Vindhyáchala*) hills. The same name is, however, given to a lofty range of hills on the left bank of the *Godaverí*, as it passes through *Gondwána*, and also to those near *Gualior*. I shall, therefore, distinguish them by the name of the *Gawilgerh* range, particularly as, after repeated enquiries, I have never been able to discover that they were so designated either by the inhabitants of those hills or of the neighbouring plains. They take their rise at the confluence of the *Púrna* and *Taptí* rivers, and running nearly E. and by N. terminate at a short distance beyond the sources of the *Taptí* and *Wurda*. To the southward, they are bounded by the valley of *Berar*, and to the north, by the course

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of the *Taptí*. The length of the range is about one hundred and sixty English miles, and average breadth, from twenty to twenty-five miles."

"On the southward side they rise abruptly from the extensive plain of *Berar*, the average height of which is one thousand feet above the level of the sea, and tower above it to the height of two and three thousand feet. The descent to the bed of the *Taptí* is equally rapid, although the northern is less elevated than the southern side of the range. The outline of the land is generally flat, but much broken by ravines and by groupes of flattened summits, and isolated conoidal frustra. The summits and the flat land are generally remarkably destitute of trees, but thickly covered by long grass. In the ravines and passes of the mountains, the forest is very thick, and, in many places, almost impervious. The inhabitants are principally *Goands*, whose language, manners, and customs differ remarkably from those of the Hindus. At present, their chief occupation is hunting and cultivating small patches of land, which produce a coarse rice and millet. In former years, the cultivation must have been very extensive, since there are the ruins of numerous hill-forts and villages, which derived their chief subsistence from the surrounding lands."

"Many opportunities are afforded of studying the nature of this mountainous range in the numerous ravines, torrents, and precipitous descents, which abound in every part. A Wernerian would not hesitate in pronouncing them to be of the "newest floetz-trap formation," a Huttonian would call them overlying rocks, and a modern Geologist would pronounce, that they owed their origin to submarine volcanoes."

"I shall not give them any other name, than the general one of trap-rocks; but proceed to describe them, and state with diffidence the inferences which, I think, obviously present themselves on an attentive study of their phenomena."

"1st. The principal part of the whole range is formed of compact basalt, very much resembling that of the Giant's Causeway. It is found columnar in many places, and at Gawilgerh, it appears stratified—the summits of several ravines presenting a continued stratum of many thousand yards in length."

"2dly. The basalt frequently and suddenly changes into a wacken, of all degrees of induration, and, I may say, of every variety of composition usually found among trap-rock;"

"3dly. Into a rock which may be named indifferently, nodular-wack-

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en or nodular-basalt, composed of nuclei of basalt, usually of great specific gravity, surrounded by concentric layers of a loose earthy mass, resembling wacken, but without cohesion, which, on a superficial view, conveys to the mind the idea of a fluid mass of earth, having, in its descent from some higher spot, involved in its course all the rounded masses it encountered, and, subsequently, become consolidated by drying. A very slight inspection is sufficient to detect the true cause of this appearance, which is owing to the facilities of decomposition of the outer crust, depending on difference of structure and composition. In none of the conglomerates, or pudding stones, do we observe any traces of this structure, and as it is common to the most crystalline green-stone, porphyritic green-stone, and those rocks usually denominated syenite, there can be little doubt that it is owing to the developement of a peculiar concretionary structure by decomposition. In a small ravine, near the village of *Sálminda*, two thousand feet above the sea, I saw basalt of a perfectly columnar structure, closely connected with a columnar mass formed of concentric lamellæ, enclosing a heavy and hard nucleus. Near this ravine, I had also an opportunity of observing the gradual and perfect passage of the columnar basalt into that which has been called stratified, from the parallelism of its planes; the composition being identical, and, without doubt, cotemporaneous. These changes and passages, from one rock into the other, are so frequent and various, as to render it impossible to refer the most of them to either of the rocks I have abovementioned, as types. I shall, therefore, proceed to describe those which are distinctly marked, and their accompanying minerals. In external appearance, the columnar and semi-columnar basalt closely resembles that of the Giant's Causeway, possessing the same fracture, internal dark colour, and external brown crust. It is equally compact and sonorous. It, however contains, more frequently, crystals of olivine, of basaltic hornblende, and of carbonate of lime. The fusibility of each is the same. Perhaps the basalt of the Gawilgerh range, more nearly resembles, in every respect, that of the *Pouce* mountain in the *Mauritius*. This is, however, of very little importance, since every body who has travelled much in trap countries, knows well what great changes in composition and structure occur even in continuous masses. Among the minerals, calcedony, and the different species of zeolite, are rarely found in the columnar basalt, but they are of frequent occurrence in that which is semi-columnar. The wacken, or indurated clay, is as various in character and composition, as the basalt, and, unfortu-

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nately, I have no type with which to compare it, as in the case of the basalt of the Giant's Causeway. Its colour varies with its constituents, but is most usually gray. It is easily frangible, very frequently friable, and is almost always porous and amygdaloidal. It appears to be composed of earthy felspar and hornblende, with a considerable proportion of oxide of iron. It is always easily fusible into a black scoria, or glass, according to the quantity of zeolite which it contains: of all the trap-rocks, it abounds the most in simple minerals: They are—Quartz."

"Calcedony and calcedonic agates, enclosing crystals of carbonate of lime.
Common and semi-opal.
Heliotrope.
Plasma, or translucent heliotrope.
Stilbite.
Analcime.
Natrolite.
Icthyopthalmite.
Felspar.
Carbonate of lime and green earth."

"I have never been able to discover in it either augite or hornblende in distinct crystals. When the surface of the land is strewed with these minerals, it is a certain indication, that the rock beneath is wacken. With regard to the situation of this rock, I have rarely seen it on the summits of hills, but much more frequently at their bases, and forming the flat, elevated plains. I shall have occasion to advert to this rock again, when I proceed to describe the petrified shells."

"The nodular basalt is, perhaps, the most common form of trap in this mountain range, as well as in other parts of India. It more commonly forms the surface than either of the rocks, and is as frequently seen on the summits, as it is at the bases of the mountains. It rarely abounds in minerals of any kind. It is the principal source of the rich, black diluvian soil of India, commonly called black cotton soil. I have little to add to the former description of it. Its external structure is sometimes beautifully developed by decomposition, since, in a mass of about six inches diameter, it is possible to count above twelve concentric layers, and on striking the nucleus a slight blow with a hammer, one or two more layers are broken off. It is owing to this facility of decomposition, that the annual rains carry down such vast quantities of alluvial soil from its surface,

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which is, moreover, always strewed with an abundance of nuclei in various stages of decomposition. It is owing to the difficulty with which the roots of trees penetrate this rock, that they are so rare on its surface, and never grow to any size; yet this circumstance does not prevent the Andropogon contortum and nardus from growing in the most luxuriant manner, which sufficiently proves the fertility of the soil."

"On ascending from the *Taptí*, I observed in a nullah, a group of basaltic columns, one of which was two feet in diameter, and six sided. When near the summit of the flat table land of *Jillan*, I entered on a pass, formed on one side by a perpendicular section of the rock, from twenty-five to thirty feet, and on the other, by a rapid descent of forty or fifty. The lower part of the section, as well as the pathway, is composed of the wacken, or indurated clay, of the kind I have before mentioned, of about ten feet in thickness; lying on it is a stratum of earthy clay, of different degrees of induration and purity, twenty yards in length, and of about two feet in thickness, containing great numbers of entire and broken shells. This possesses all the characters of a stratum, since the horizontal fissures are parallel, and are prolonged, with a few interruptions, through the whole extent. The accompanying sketch will serve to give a tolerably correct idea of the mode in which the stratum appears to overlie the lower rock, and to have been depressed by that which is superincumbent. The upper rock consists of about fifteen feet in thickness of the nodular basalt, or wacken. The nuclei being of all sizes. The vertical fissures, which are so remarkable in trap rocks, are prolonged from both the upper and lower rocks into the shelly stratum, although there is no intermixture of substance."

"The stratum is composed of a highly indurated clay, fusible before the blowpipe into a fine black glass, and neither it nor the shells it contains, effervesce in acids. The shells are, for the most part, flattened, and belong either to the genus conus or voluta. It is not possible to conceive that so fragile a substance as a thin land shell, should have been so completely flattened without fracture, unless it had been previously softened by some mode, which at the same time produced a sufficient degree of pressure to effect its flattening."

"I have attempted, in the annexed sketch, to give a representation of the degree of flattening; but I fear that it can only be well understood by the specimens themselves. Neither the rock nor its contained shells, effervesce in acids. Westward, the ground is cov-

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ered by the debris of a shelly conglomerate, much more indurated and impregnated with green earth, exhibiting cavities and shells in relief: from the shape of the former, there can be no doubt of their having once contained shells. Some of the shells are entire, but are rarely flattened. The matrix appears to be siliceous, and, in some cases, approaches to imperfect heliotrope. It is not fusible before the blowpipe."

"I may here mention that, in a report to the Marquis of Hastings, in June, 1819, I mentioned the existence of shells in trap rocks at *Medconda*, at a height of two thousand feet above the sea. The hill was composed of nodular-trap, and lying on its surface, were numerous pieces of siliceous stone, containing shells of the genera turbo and cyclostoma—the specific gravity of the stone varied from 2-0 to 2-5 : the shells did not effervesce in acids, although some of them preserved their external polish. Internally, some of the stones appeared to pass into flint, particularly those of small specific gravity, whilst their external surface effervesced in acids. Some of the small shells were completely changed INTO CALCEDONY. Specimens of these shells are lodged with the Asiatic Society."

"It is a remarkable fact, that the only remains of animals hitherto discovered in India, should be found in trap rocks, and under quite peculiar circumstances. 1st. They are found in situations where there are no indications of the former existence of lakes. 2d. Both the shells and matrix are destitute of carbonic acid. 3d. The former are, in many instances, squeezed flat without fracture, and, in some cases, completely commixing with their matrix."

"These effects could only have been produced by the agency of heat, and, consequently, the modern theory of sub-marine or sub-aqueous volcanoes, will best serve to explain the phenomena. These shells were deposited in the stratum of clay in which they are now found, and when forced up by the mass of wacken beneath, they were, most probably, at the same time covered by the nodular basalt. Thus we have heat, to drive off the carbonic acid and soften the shells under a pressure, which assisted the process, and, at the same time, flattened them."

"I have too numerous collateral proofs of the intrusion of the trap rocks in this district, amongst the gneiss, to allow me to doubt of their volcanic origin. I shall take an early opportunity of completing the history of the trap rocks of India, for which I have collected materials for several years past."

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The report to which allusion is made is published in the Journal of the Asiatic Society for June 1833,* and the hills of Medcondah and Shevalingapah being at no great distance from the road from Jaulnah to Hyderabad, the extract, if you can find space for it, may meet the eye of some officer who may be able to visit the spot, and more fully investigate and describe the characters of the hills and of the fossils. Specimens of the shells would be of great value. In the number of the Journal for July 1833 an extract from the Mofussul Ukhbar announced the discovery near Sagar (in the same vast volcanic district) below a bed of trap 17 feet thick, of large reversed univalve shells of the same species, as had been previously discovered silicified in indurated clay at Jubalpoor. These had been described as follows by Dr. Spilsbury in the number for April, 1833.

" The locality of the fossil shells, which I have at length the " pleasure to send to the Society, lies about 18 or 20 miles east " of Jabalpúr. The first three miles cross a sandy plain, which " abruptly terminates at a small rivulet; when the soil changes " to the black alluvial one of the valley. At six miles cross the " Gour river, a rough ghát of *trap:* the road winds on between " trap hills varying from 50 to 300 feet high. I encamped at " *Suleya* on the same river (here 200 feet broad): the bed inter- " sected with veins of heliotrope, quartz, massive and crystallized. " The road then led through an undulating country, with irregular " masses of trap, and for less than a mile beyond, masses of the " accompanying shell breecia, from a single shell to large blocks " of two feet, extend, mixed with the trap, over a space about " 300 feet square. The spot had been under *tillee* cultivation. " There was no *nálá* or ravine near, whence I could judge of the " nature of the substrata, but at no great distance I could see the " trap appearing precisely as in the bed of the river. I asked " the limeburner how he came to discover them? His account

* " On the basaltic hill of *Medkunda* I observed large masses of flint " lying on the surface and deeply connected; also pieces of a siliceous stone " containing shells which had lost their carbonic acid: the external surface " of these masses effervesced in acids. These shells belong to the genera " *turbo* and *cyclostoma*, and living specimens are found in the beds of most " of the rivers as well as on the rocks in their neighbourhood. The speci- " fic gravity of these stones varies from 1.90 to 2.00, that of the flint is " 2.60. A few miles from this place I observed the same shells enclosed " in small pieces of earthy lime-stone; they were lying on the basalt, " which is here 2000 feet above the level of the sea and about 200 above " the river *Manjira:* the base of the hill being granite, and the basalt not " occupying more than 100 feet. *Asiatic Journal for August,* 1833, *page* 401.

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" was, that he is in the habit of taking small quantities of lime " to the neighbouring villages for sale, and in his travels has an " eye to the *geological features* of the country as far as lime- " stone is concerned:—passing this field some nine or ten months " ago he was struck with the very different appearance and " colour of the stones,—and hence the discovery of these fossil " shells."

" The matrix of these shells appears to be indurated clay, and " the forms of the shells are in most cases replaced with silicious " matter; they resemble, as Dr. Spilsbury suggests, the bucci- " num and other shells in the Gawelgerh range of hills described " by Voysey, (Gleanings, vol. I, page 356.)

The Sagar shells discovered by Dr. Spry, " are of one species, " all left-handed, and precisely the same as those discovered " by Dr. Spilsbury, silicified in indurated clay, near Jabalpúr, " and described in the Proceedings of the Society for April, " (p. 205); these however are in their natural state, imbedded " in a loose cellular wacken, the white granular appearance of " which is derived from silex in a white crumbling state, lining " the numerous cells of the matrix as is often observed in the " geodes of zeolite and heliotrope. Both above and below the shell " stratum are beds of wacken, a basaltic clay, becoming harder " below, and more earthy above; the surface being the common " black cotton soil, abounding throughout the trap district. The " same shell deposit will probably be found to extend over a " considerable field."

" On turning to Dr. Voysey's description of the shell stratum " in the Gawilgerh hills, a perfect identity is observable in the " thickness and nature of the superincumbent and subjacent beds " of wacken and basalt: the shells however are described by him " as conus or voluta, but as they were much broken and compress- " ed, they were probably not easily recognized, and may have " been after all identical with the present shells. They bear some " resemblance to the common *ampullaria* of the tanks and jheels " of upper India, described by Mr. Benson, Gleanings 1. p. " 265. The fossil shell however has some specific distinctions, in " its more oval form, and the constant reversion of the whorls. " Should it turn out to be an *ampullaria*, it will be a proof of " fresh water lakes, co-existent with the emission of the upper " Ságar trap, and perhaps with the fossil bone deposit, and as " both by Voysey's testimony and by that of Dr. Spry the shell

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" bed bears all the appearance of a regular stratum—it will serve " as a mark of distinction between the older and more recent volca- " nic emissions of that extensive field." Journal, Asiatic Society, October 1833, page 549.

The apparent absence of fossils in the secondary formations of India, has been remarked by Mr. Conybeare in his report to the British Association, and the want of information on the characters of the fossils discovered by Dr. Voysey beneath the trap of the Gawilgerh hills in Berar, noticed as a subject of regret. A specimen of the Gawilgerh fossiliferous rock which had belonged to Dr. Voysey's collection having been presented to me, I have had a sketch made of the most perfect shell it contains, of the natural size, and although it is imperfect, a comparison with the figure of the Sagar fossils will show, that it cannot be referred to the fresh water family to which ampullaria belongs.*

I have no doubt that Dr. Voysey justly considered the Gawilgerh shells to have been marine, and that like the various species I discovered in the Neermul hills, they had been raised from the bottom of the ocean by a series of great volcanic convulsions, which had also raised the granite rocks on which these trap mountains rest. It will be observed that some remains of small spiral shells exist in the Gawilgerh specimen, and appear to be the same as some of those found on the summits of the Neermul hills, which belong to the Shesha range *running parallel to the former* for several hundred miles; and in a fragment of indurated clay brought by Dr. Voysey from a place called Jirpah, fragments of bivalves can be traced, which are themselves too imperfect to be of use, but their forms can be determined by comparing them with the more perfect ones in my possession.

The singular phenomena exhibited by the eruption of the trap through the granite, and the argillaceous limestone which appears to be interstratified with the great sandstone formation; the consequent alterations in the characters of the rocks, which exhibit all the series of changes from simple elevation to the aggregation of the sand and mud which had covered them (and in which

* Similar fossils found in the trap formation at Chicknee, 62 miles South of Nagpore, appear to me rather to belong to the genus voluta of the Linnean system than to ampullaria. The shell No. 3, in the sketch is a species of voluta which occurs on this coast and is copied from Wood's Catalogue, plate 21, No. 184, and the similarity in form to the Sagar shell, is sufficient to suggest the necessity of caution in determining the characters of imperfect remains on which important inferences depend. The recent shell is 2¼ inches long.

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many of the shells have been entombed where they had lived), and the eruption of fluid lava and scoriæ; and the connection of the hot springs of Mour, Kair, and others to the S. E., with the volcanic chain in which the great extinct crater of Lunar occurs, can now only be alluded to. But the wide extent over which fossils have already been discovered in different parts of the great volcanic district, cannot fail to throw much light on its relative age, and on the geology of the whole tract from the Ganges to the Kistnah, and even on the countries south of that river, especially the diamond districts.

I shall take an early opportunity of presenting a series of specimens to the Society, which will demonstrate the existence of an inland sea or great inlet, which at one time has flowed over the fertile valley of Berar. Great beds of marine shells, some of them so perfect as to differ little in appearence from an oyster bed on a modern coast, are now found in the recesses of the forests which cover the Neermul hills; in others we are almost led to expect to be able to open the bivalves, the hinge though composed of flint, appearing to the eye, of the same elastic structure as the recent shells on the beach. The impression left on the mind by the examination of these singular relicts concealed by the long grass which cover those solitary wilds, whenever the forest is sufficiently thin to admit of its growth, was very strong and cannot be conceived by the mere examination of imperfect hand specimens. The pursuit was not without some danger, as tigers are unusually numerous and night came on while engaged in it. The stone-cutters I had brought with me, could not be induced to remain alone or to explore any new thicket without my presence, and no small alarm was excited by the sudden rush of a large elk through the long grass which concealed him from the people. That the sea was not at the period in question flowing over the Peninsula, and that the marine animals had existed on the coasts of an inlet is apparent, from the occurrence of a fossil palm and of branches of dicotyledonous trees at Hingangaut (a large town near which Colonel Lambton is buried), and of a mixture of large marine shells and wood, in the same rock, in other places, while in one instance, some fine remains of a species of cyclostoma, not very different from that still abundant in the fresh water streams and ponds of the neighbourhood, is found near a bed of large marine shells. Nor will it appear improbable, that such an inlet from the bay of Cambay could have reached the high country near which the Taptee and Nurbudah now rise, when

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it is seen that great ranges of volcanic rock has been forced through the more ancient strata lying to the N. and S. and that the similarity of their geological composition is proved by numerous observations at very distant points. The Neelgherries may have been 7000 or 8000 feet above the sea, and have possessed a vegetation partaking of the European character, when Berar was under the sea. The granite underneath, however, was raised at the same time, as it often rises above the plains and in one place supports a bed of marine shells, 12 feet thick, amongst which some masses of friable volcanic sand is found, and within a few hundred yards a great eruption of trap has taken place, rising precipitously from the granite, and covering it with calcedonies &c. which have been washed down its very steep sides. North of Nagpore, near the cantonment of Kamptee, the granite is also seen to have elevated the sandstone and to have been forced amongst it, bending its strata or converting them into a quartz rock, and within a mile of this, are some small hills of upraised gneiss strata, and a small conical hill of vitrified and strangely altered rock, (from which I broke pieces of carnelian), which has burst through a limestone bed, which it appears to have converted into a fine crystallized mass like the mountain limestones of Scotland. From the summit of this little mound is seen a few miles to the south, the flat topped basaltic hills of Seetabuldee resting on granitic rock and others containing very perfect columns, and 12 miles to the north, the rounded granite or mica slate hills of Ramteak.

The facts discovered in these examinations, leave no doubt of the volcanic eruptions to which the Berar valley owes its rich black soil and extraordinary fertility being posterior to the deposition of the argillaceous limestones and sandstone, which are in every respect similar to the formations in the districts of Cuddapah in which the diamond is found. The sandstone has been raised by these convulsions at Won, 7 miles south of the Wurdah river, where a fine fossil vegetable was found, which, when identified, will be of great interest, no remains having yet been discovered in this formation which occupies so important a place in the geology of India. It is thus described by Mr. Conybeare in his report to the British Association.

" Next to the coal we have to notice a great sandstone formation,
" which is usually considered equivalent to our new red-sandstone;
" this includes many variations of character, comprising, besides sand-
" stone and conglomerates, shales often approximating to older slate;
" the diamond mines of Panna (in Bundelkhand) and of the Golconda

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" district are situated in this formation, the matrix being a conglo- " merate bed with quartoze pebbles: rock salt and gypsum are " found where this formation extends on the N. W. into the great " basin of the Indus: the stratification is uniformly horizontal: *no* " *organic remains occur.* Beginning at the Ganges on the east, " this formation first shows itself, supporting basalt, on the Rajma- " hal hills; it again prevails throughout the interval between the con- " fluences of the river Son (Soane) and of the Jamna with the Gan- " ges, and thence stretches across W. S. W. through the Bundel- " khand district to the banks of the Nermada(Nerbudda),which flows " into the gulf of Cambay,as far as 79° Longitude E.; where it is over- " laid by the eastern extrimity of the great basaltic district of north " western India near Sagar: the red sandstone shews itself again " emerging from beneath the north western edge of this basaltic " district, at Nimach,near the western sources of the Chambal (the " great southern branch of the Jamna) and at Baug, in the valley of " the Nermada." Journal, Asiatic Society, November 1833, page 606.

The occurrence of a black bituminous looking stone amongst the diamond breecia,attracted my attention some years ago, and having found traces of coal between the Baingunga and Wurdah, the apparent conversion of the fossil into a black coal-like substance appeared to support some important speculations. The drawing enclosed exhibits this fossil in its position in the rock, and also a section, of the natural size, made by breaking it across the line of the fibres, and a magnified representation to display its structure more clearly. The drawing, executed by Dr. Wight's botanical draughtsman, is scrupulously accurate, but I fear too minute in the details to be lithographed with success at Madras. An attentive search amongst the sand stones of the Ceded Districts, would probably lead to the discovery of other fossils in this formation. My object being merely to break the ice which seems to have prevented the communication of facts relative to the natural history of the south of India, I shall conclude by observing that the existence of fossils at Chicknee was observed by Mr. Geddes, Surgeon of the Madras European Regiment, early in 1829, that in May 1833 I found them at various places between Neermul (near the north bank of the Godavery) and Hingangaut, 47 miles south of Nagpoor, a tract extending for 180 miles; and that Mr. Geddes in travelling from Nagpoor to Masulipatam by Chandah, found the road from Yoitoor or Ettoor to Poonamalla, on the south bank of the Godavery below the junction of the Wurdah, strewed with petrified wood. The Sechachull

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or Sehsa hills seem to be lost in the eastern gauts near this, but no hills or rocks were observed in the immediate neighbourhood. Mr. Geddes unfortunately was travelling mostly at night, and has not stated if the wood was petrified by lime or silex. When in this direction in 1828 I was informed that hot springs existed in the neighbourhood. I am also informed that a rich mine of fossil bivalve shells has been lately discovered in the Salem hills. Such facts certainly should not be concealed, at a time when India is looked to for facts to confirm or refute the principal speculations on which geologists are divided, and when Russia is enjoying the honor of having successfully explored the regions of Asia lately added to her dominions, and has at the same time been rewarded by the discovery of some of the richest mines of the precious metals in the world.*

J. G. Malcolmson,
Assistant Surgeon.

Reference to the Drawing.
No. 1, Gawilgerh shells. No. 2, Sagar fossil.
No. 3, a recent species of Voluta. No. 4, Section of No. 6.
No. 5, Section magnified, No. 6, Fossil from Won-sandstone.

IV.—*An Historical account of the Christians on the Malabar Coast, by the Venerable Archdeacon Robinson,* A. M.

Part 4th.

(Continued from the 269th page of our 4th Number.)

The diocesan synod of the churches of St. Thomas, summoned by proclamation of the Archbishop of Goa, assembled at the church of Diamper on the 20th of June 1599. We have an exact and authentic account of the acts of the synod, written immediately

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* "That the system of M. Elie de Beaumont is directly opposed to a fundamental principle, vindicated by Mr. Lyell, cannot admit of doubt. And I have decided to the best of my judgment, in favour of the former author." "* * * Mr. Boué and other able writers have opposed the views of this eminent geologist; they deny him the merit of being the first to point out, that different formations and masses of land have been elevated at distant and separate periods, and reject that part of his system which asserts the synchronous elevation of distant mountain chains parallel to each other. Before we are warranted in arriving at general conclusions on this latter point, numerous facts must be collected, and we can but urge all our working brethren to try the adequacy of M. de Beaumont's ingenious theory, by an appeal to nature; M. de Humboldt believes, that the four great chains of Asiatic mountains are parallel to one another, and that circumstance tends powerfully to confirm the theory. As however, the personal observations of this traveller have not extended beyond the Altai, we must still look for evidence whereon the synchronism of the elevations of these mountains may rest to our Indian geologists, whose exertions will naturally be stimulated to attempt the solution of the problem. Russia has been before hand with us in exploring their newly acquired portion of Asia." Professor Sedgwick's anniversary address to the Geological Society, Journal of the Asiatic Society, November, 1832.

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after its celebration, by order of the synod itself, and printed at the end of the History of the Archbishop's visitation by *Antonio de Gouvea*, an Augustinian monk, and Professor of Divinity at Goa. The value of this document is very great to the protestant churches of the west, not only as recording the tyrannical violence with which the Romanists endeavoured to impose their yoke on a foreign church, the diocese of another Patriarchate, but chiefly as bearing ample testimony to the great number of points of doctrine and discipline, in which they differ equally with ourselves from the corruptions of Rome. We are accused of innovation and modern heresy; but here, according to the written testimony of our adversaries themselves, is a church wonderfully preserved by the merciful providence of the Divine Saviour in the midst of a heathen land from the earliest and purest ages—in all probability from the days of the Apostles, without any communication or intercourse with the churches of Europe; and yet agreeing in very many of the most essential points in which the protestants of Europe have resisted the corruptions of the Romanists. Those points, as collected from Gouvea's history are briefly these. "They are said, 1. Not to adore Images; " 2. To hold but three Sacraments, baptism, the eucharist, and " orders; 3. To make no use of oils. 4. To have had no know- " ledge of confirmation or extreme unction. 5. To abhor auricu- " lar confession. 6. To hold many enormous errors about the " eucharist, insomuch that the author of the history saith, he is " inclined to believe, that the hereticks of our times, (meaning " Protestants) the revivers of all forgotten errors, and ignorances, " might have had their doctrine about the eucharist from them. " 7. To ordain such as have been married several times, and those " who had married widows, and to approve of her priests marrying " as often as they have a mind. 8. That she abhors the Pope and " the church of Rome as Anti-christian, in pretending to a superiori- " ty and jurisdiction over all other churches."*

The Synod was opened by the Archbishop, declaring the objects for which it was convened to be the extirpation of heresy and error, the reduction of the churches of St. Thomas to the obedience of the See of Rome, and the general reformation of abuses both among the clergy and the people. The first day of the session was chiefly occupied with the celebration of High Mass, which was performed with great solemnity, and the enaction of certain regulations for the conduct of the Synod in its future deliberations.

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* Geddes.

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On the second day, the Archbishop, after declaring that the Synod should in all things be governed by the holy canons and general councils, and especially *the council of Trent*, kneeled down before the altar, in his pontifical robes but without his mitre, and made the following confession of faith, in his own name, as Metropolitan. The same declaration and oath was afterwards exacted from the Syrian Archdeacon and all the clergy both present and absent.

After reciting the Nicene Creed, he thus proceeded—" I do firmly receive and embrace all Apostolical and ecclesiastical traditions, and all the observances and constitutions of the said church; I admit the Holy Scriptures in that sense wherein it has ever been, and is still held by Mother Church, to whom it belongeth to judge of the true sense and interpretation of the Holy Scriptures; neither will I either receive or interpret it but according to the unanimous consent of the Fathers."

I do confess likewise, that there are seven true and proper Sacraments of the New Testament, instituted by Christ our Lord, which are all necessary to the health of mankind, though not to every particular person; they are, baptism, confirmation, the eucharist, order, penance, matrimony, and extreme unction, which do all confer grace on those that receive them worthily; and of these seven Sacraments, that baptism, confirmation, and orders, are to be received but once, neither can they be repeated without great sacrilege.

I admit and receive all the customs, rites, and ceremonies, received and approved of in the Roman Church, in the solemn administration of the said seven Sacraments, and do also receive and embrace all in general, and every thing in particular, that has been defined and declared concerning original sin, and justification, in the Holy Council of Trent.

I do likewise confess, that in the mass there is offered to God a true and proper sacrifice of pardon both for the quick and the dead; and that in the most Holy Sacrament of the eucharist, there is the true, real, and substantial body and blood, together with the soul and divinity of our Lord Jesus Christ; and that the whole substance of the bread is by consecration turned into the body of Christ, and the whole substance of the wine into his blood; which conversion the Catholic church calls transubstantiation: moreover, I do confess, that under each species Christ is entire, and the true sacrament is received.

I do constantly hold and confess, that there is a Purgatory, and that the souls which are cleansing from their sins do receive benefit from the prayers and devotions of the faithful.

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I do likewise affirm, that the souls of the just and faithful, which at their departure out of this life, have entirely satisfied for the punishment due to the sins that they have committed as also those in Purgatory which have made an end of satisfying for their sins according to the divine pleasure and ordination; as also those who after baptism have committed no sin, do at the moment of their death go immediately into Heaven, where they behold God as he is: and I do condemn, and anathematize the heresy of those, who think that the souls of the just are in a terrestrial paradise till the day of judgment; and that the damned are not tormented any otherwise than by the certainty they have of the torments they are to enter into after the day of judgment.

And I do confess, and affirm, that the Saints now reigning with Christ in Heaven, are to be reverenced, and invoked, and that they offer prayers to God for us, whose relicks are likewise to be reverenced on earth: and moreover, that the images of our Lord Christ, and of our Lady the glorious Virgin Mary, and of all the other saints, are to be kept, used, and reverenced, with due honour and veneration.

I do also believe, that our Lady the most Holy Virgin Mary is the proper and true mother of God, and ought to be called so by the faithful, for having brought forth according to the flesh, without any pain or passion, the true Son of God, and that she always continued a virgin, in, and after her deliverance, having never been defiled by any actual sin.

I do confess, that the power of granting indulgences was left to the Church by our Lord Jesus Christ; the use whereof I do affirm to be healthful and profitable to all christian people.

I do acknowledge the Holy, Catholic, and Apostolic Roman church to be the head, mother and mistress of all other churches in the world; and do hold all that are not subject and obedient to her, to be heretical, schismatical, and disobedient to our Lord Jesus Christ, and his commands, and to the order that he left in the church, and to be aliens from eternal salvation.

I do promise and swear true obedience to the Pope, the Roman bishop, the successor of the blessed prince of the Apostles St. Peter, and vicar of our Lord Jesus Christ on earth, the head of the whole church on earth, and doctor and master of all Christians; and do confess, that all who deny obedience to the said Roman bishop, the Vicar of Christ, are transgressors of the divine commands, and cannot attain to eternal life.

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I do without any scruple receive, approve, and confess all other matters, defined and declared in the sacred canons, and general councils, and chiefly in the holy council of Trent; and do in the same manner condemn, reject, and anathematize every thing that is contrary to the same; together with all heresies condemned, rejected and anathematized by the said Church; namely the diabolical and perverse heresy of Nestorius, and its false teachers Theodorus and Diodorus, and all that have and do follow it, who being persuaded and seduced by the devil, do impiously maintain, that our Lord and Saviour Christ consists of two persons, affirming the Divine Word not to have taken the flesh into a unity of person with itself, but only to have dwelt therein as in a temple; and so will not say, that God was incarnate, or that our Lady, the most Blessed Virgin, was the mother of God, but only the mother of Christ; all which I reject, condemn and anathematize as diabolical heresies; and do believe, and embrace, and approve of all that was determined about this matter, in the council of Ephesus, consisting of two hundred fathers, in which by order of Celestine first bishop of Rome, the blessed St. Cyril, patriarch of Alexandria was president, whom I acknowledge to be a saint now enjoying God, and that all that blaspheme him are in a state of damnation.

Moreover I do condemn all that say, that the passion of our Saviour ought not to be mentioned, and that it is an injury to him to do it; on the contrary, I do believe and confess, that the consideration and discourses thereof are holy, and of benefit to souls.

I do likewise confess and believe, that in pure christianity there is only one law of our Lord Jesus Christ, true God, and true Man; in like manner as there is no more than one only true God, one only faith, and one only baptism; which one only law was preached by all the holy Apostles, and their disciples and successors after the same manner. I do therefore condemn and reject all those who ignorantly teach, that there was one law of St. Thomas, and another law of St. Peter, and that they are so different as not to have any thing to do with one another; as also all other heresies and errors condemned by holy mother Church.

This true and catholic faith, out of which there is no salvation, and which at present I do of my own free will, profess and truly hold and believe, I shall with the help of God endeavour to keep

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entire, and undefiled to my last breath; and constantly to hold and profess, and to procure its being held, professed, preached, and taught by all that are subject to me, or that shall be any ways under my care. I. N. do promise and vow to God, and swear to this holy Cross of our Lord Christ; so help me God, and the contents of this Gospel.

I do also promise, vow and swear to God, this Cross, and these Holy Gospels never to receive into this Church and Bishoprick of the *Serra*, any bishop, archbishop, prelate, pastor or governor whatsoever, but what shall be immediately appointed by the Holy Apostolical see, and the bishop of Rome, and that whomsoever he shall appoint, I will receive and obey as my true pastor, without expecting any message, or having any further dependance upon the patriarch of Babylon, whom I condemn, reject and anathematize, as being a Nestorian heretick and schismatic, and out of the obedience of the holy Roman Church, and for that reason out of a state of salvation; and I do swear and promise, never to obey him any more, nor to communicate with him in any matter. All this that I have professed and declared, I do promise, vow and swear to Almighty God, and the holy Cross of Christ: so help me God, and the contents of these Gospels. Amen."

On the third day it was decreed that an exposition of faith in distinct chapters, should be published for the instruction of the people at large. It was ordered that those books or verses of the scripture which were wanting in the Syriac manuscripts, should be translated into Syriac by Francisco de Roz, and their copies thus completed. The deficiencies were the following; the beginning of the 8th chapter of St. John's Gospel; *seventy* disciples said to be sent by Christ instead of *seventy two*, in the 10th chapter of St. Luke; the Doxology in the Lords Prayer omitted Mat. 5; the second Epistles of St. Peter; the second and third Epistles of St. John; that of Jude; and the Revelation of St. John; in the 4 chapter of St. John's 1st Epistle the words, *qui solvit Jesum, ex Deo non est;* and in the 5th chapter the famous text of *the three witnesses*. In the Old Testament the book of Esther, and in the Apocrypha those of Wisdom and Tobit were wanting.

Corrections of certain other texts were also ordered, where the Syrian copies seemed to favour the doctrines of Nestorius. Three errors attributed to the christians of St. Thomas were condemned —the *transmigration* of souls after death into other bodies either

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of men or beasts—the doctrine of *Necessity*, and that every one may be saved in the religion he professes. That the first of these errors was not the doctrine of their church is evident from many other passages in the acts of the Synod, from whence it appears that they believed the souls of the departed just were in a terrestrial paradise, where they were to remain till the day of judgment. The second charge is grounded on a confusion of necessity with predestination from which, the Archbishop at least ought to have known, it is essentially distinct.

By another decree of that day's session they are accused of accounting it a grievous sin so much as to think or speak of our Saviour's passion—a charge utterly irreconciliable with the fact of their having crosses in all churches and in many houses, of their constant administration of the Lord's Supper, and of their preaching that it was Christ and not the Son of God that suffered on the cross. Frequent meditation was enjoined on this great and fundamental doctrine, and to that end the devotion of the rosary of the Blessed Virgin was especially recommended! The belief of the immaculate conception and sinless purity of the Virgin is specially enjoined, and the unity of the Church under the bishop of Rome as its supreme head on earth, fully declared. The title of universal Bishop, which was heretofore given in their liturgy to the patriarch of Babylon, was ordered to be transferred to the Pope whose name was inserted in their public prayers. The commemoration of Nestorius and his followers on particular days was strictly prohibited and their place supplied with other names from the Roman Calendar. The attendance of christian children on heathen schoolmasters who obliged them to pay reverence to the idols in their house, is strictly forbidden, and the practice of certain christian schoolmasters setting up idols in their schools in order to induce the heathen to send their children, condemned under pain of excommunication. The 14th decree prohibits the reading or possession of certain books, condemned as heretical and mischievous; and under this pretence a grievous and irreparable injury was done not only to their church, but to theological learning generally, by the subsequent destruction of many curious and valuable remains of antiquity. Their Liturgy also and offices were purged from every trace of Nestorian heresy, and at the same time polluted with the doctrine of transubstantiation, which till then was unknown to them. The destruction of the prohibited books and the correction of the others was entrusted to Fran-

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cisco Roz, who executed the barbarous sentence with unsparing fidelity. Preachers were required to be licensed by the bishop of the diocese, or in the vacancy of the see, by the rector of the Jesuit's College at Vaipicotta and a portion of a catechism in the language of the country, to be prepared by the archbishop, was ordered to be read to the people every Lord's day. The general councils, and especially the council of Ephesus in which Nestorius was condemned, were solemnly recognized by the Synod, and the council of Trent received as the rule of their discipline and doctrine; and the last decrees of the session expressed the submission of the Synod to *the Inquisition* established at Goa, as supreme in all points of doctrine or manners, requesting the Inquisitors to delegate their powers to some learned men in the diocese or to the Fathers in the College of Vaipicotta—thus rivetting the chains imposed on them, by the iron rule of that fearful and monstrous tribunal.

The four next sessions of the Synod were occupied in defining the doctrine of the seven sacraments according to the Church of Rome, and in giving special directions for their due administraon. To detail the several decrees on these points would be at once tedious and useless to the general reader. They are chiefly valuable as they prove how little of the corrupt additions of later times was found in the primitive and secluded communion of the christians of St. Thomas.

The eighth session relates entirely to the regulation of Church affairs, in which are many useful and excellent directions mixed with much more of a corrupt and evil tendency; and the last is occupied in the reformation of manners, especially forbidding the adoption of superstitious observances from the heathen around them; and many immoralities which had sprung up as the natural fruit of poverty and ignorance.

The Decrees having been publicly read, the diocese was divided into seventy five parishes, of convenient size according to the circumstances of the case, and a vicar nominated to each. The archbishop, before whom they knelt one by one to kiss his hand, conferred Institution upon the incumbents, and gave them a solemn charge, explanatoryof the nature and importance of the duties entrusted to them. The decrees were then signed by the archbishop and by all the clergy and the deputies of the laity who were present. There were one hundred and thirty three priests, besides other clergy, and six hundred and sixty representatives of the people.

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A solemn *Te Deum* begun by the archbishop kneeling before the High Altar, and chaunted by the whole choir, going in procession round the Church, closed the ceremonial; and the metropolitan, after returning thanks to God for his mercy in bringing the Synod to a happy termination, and to the clergy and people for their attendance, dismissed them with his blessing.

V.—*On the state of Education of the Natives in Southern India by A. D. Campbell, Esq. M. C. S.*

(Extracted from Appendix to report from Select Committee on the affairs of the East India Company.)

The population of this district* is specified in the enclosed statement at 927,857, or little less than a million of souls. The number of schools is only 533, containing no more than 6,641 scholars, or about 12 to each school, and not seven individuals in a thousand of the entire population.

The Hindoo scholars are in number 6,398, the Mussulman scholars only 243, and the whole of these are males, with the exception of only 60 girls who are all Hindoos exclusively.

The English language is taught in one school only; the Tamul in four; the Persian in 21; the Mahratta in 23; the Teloogoo in 226, and the Carnataca in 235. Besides these there are 23 places of instruction attended by Brahmins exclusively, in which some of the Hindoo sciences, such as theology, astronomy, logic and law, are still imperfectly taught in the Sanscrit language.

In these places of Sanscrit instruction in the Hindoo sciences, attended by youths, and often by persons far advanced in life, education is conducted on a plan entirely different from that pursued in the schools, in which children are taught reading, writing and arithmetic only, in the several vernacular dialects of the country. I shall endeavour to give a brief outline of the latter, as to them the general population of the country is confined; and as that population consists chiefly of Hindoos, I shall not dwell upon the few Mussulman schools in which Persian is taught.

The education of the Hindoo youth generally commences when they are five years old; on reaching this age, the master and scholars of the school to which the boy is to be sent, are invited to the house of his parents; the whole are seated in a circle round an

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* Bellary.

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image of Gunasee, and the child to be initiated is placed exactly opposite to it: the schoolmaster sitting by his side, after having burnt incense and presented offerings, causes the child to repeat a prayer to Gunasee, entreating wisdom. He then guides the child to write with its finger in rice the mystic name of the deity, and is dismissed with a present from the parents according to their ability. The child next morning commences the great work of his education.

Some children continue at school only five years; the parents, through poverty or other circumstances, being often obliged to take them away; and consequently in such cases the merest smattering of an education is obtained: where parents can afford it, and take a lively interest in the culture of their childrens' minds, they not unfrequently continue at school as long as 14 and 15 years.

The internal routine of duty for each day will be found, with very few exceptions and little variation, the same in all the schools. The hour generally for opening school is six o'clock; the first child who enters has the name of *Saras-wattee*, or the Goddess of Learning, written upon the palm of his hand as a sign of honor; and on the hand of the second a cypher is written, to shew that he is worthy neither of praise nor censure; the third scholar receives a gentle stripe; the fourth two; and every succeeding scholar that comes an additional one. This custom, as well as the punishments in native schools, seems of a severe kind. The idle scholar is flogged, and often suspended by both hands to a pulley fixed to the roof, or obliged to kneel down and rise incessantly, which is a most painful and fatiguing, but perhaps a healthy, mode of punishment.

When the whole are assembled, the scholars, according to their number and attainments, are divided into several classes, the lower ones of which are partly under the care of monitors, whilst the higher ones are more immediately under the superintendence of the master, who at the same time has his eye upon the whole school. The number of classes is generally four, and a scholar rises from one to the other according to his capacity and progress. The first business of a child on entering school is to obtain a knowledge of the letters, which he learns by writing them with his finger on the ground in sand, and not by pronouncing the alphabet, as among European nations. When he becomes pretty dextrous in writing with his finger in sand, he has then the privilege of writing either with an iron style on cadjan leaves, or with a reed on paper, and sometimes on the leaves of the *Aristolochia Indica*, or with a kind

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of pencil on the *Hulligi* or *Kadala,* which answers the purpose of slates. The two latter in these districts are the most common. One of these is a common oblong board, about a foot in width and three feet in length; this board when planed smooth has only to be smeared with a little rice and pulverized charcoal, and it is then fit for use. The other is made of cloth, first stiffened with rice-water, doubled into folds resembling a book, and it is then covered with a composition of charcoal and several gums. The writing on either of these may be effaced by a wet cloth. The pencil used is called *Bultapa,* a kind of white clay substance, somewhat resembling a crayon, with the exception of being rather harder.

Having attained a thorough knowledge of the letters, the scholar next learns to write the compounds, or the manner of embodying the symbols of the vowels in the consonants, and the formation of syllables &c., then the names of men, villages, animals, &c., and lastly arithmetical signs. He then commits to memory an addition table, and counts from one to 100, he afterwards writes easy sums in addition and subtraction of money, multiplication and the reduction of money, measures, &c. Here great pains are taken with the scholar in teaching him the fractions of an integer, which descend, not by tens as in our decimal fractions, but by fours, and are carried to a great extent. In order that these fractions, together with the arithmetical tables in addition, multiplication, and the threefold measures of capacity, weight and extent, may be rendered quite familiar to the minds of the scholars, they are made to stand up twice a day in rows, and repeat the whole after one of the monitors.

The other parts of a native education consist in decyphering various kinds of hand-writing in public, and other letters which the schoolmaster collects from different sources, writing common letters, drawing up forms of agreement, reading fables and legendary tales and committing various kinds of poetry to memory, chiefly with a view to attain distinctness and clearness in pronunciation, together with readiness and correctness in reading any kind of composition.

The three books which are most common in all the schools, and which are used indiscriminately by the several castes, are the *Ramayanum, Maha-Bharata* and *Bhagrata;* but the children of the manufacturing class of people have, in addition to the above books peculiar to their own religious tenets, such as the *Nagalingayna, Kutha, Vishvakurma Poorana, Kumaleshera, Ralikamahata;* and those who wear the lingum, such as the *Buwapoorana Rag-*

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havan-Kunkauya Geeruja-kullana, Unabhavamoorta, Chenna, Busavaswara Poorana, Jurilagooloo, &c., which are all considered sacred, and are studied with a view of subserving their several religious creeds.

The lighter kind of stories which are read for amusement are generally the *Punchatantra Bhatalapunchavunsatee, Punklee-Soopooktahuller, Mahantarungenee.* The books on the principles of the vernacular languages themselves, are the several dictionaries and grammars, such as the *Nighantoo, Umara, Subdamumburee, Shubdeemunee Durpana, Vyacurna, Andradeepecva, Andranamasungraha, &c. &c*, but these last and similar books which are most essential, and without which no accurate or extensive knowledge of the vernacular languages can be attained, are, from the high price of manuscripts and the general poverty of the masters, of all books the most uncommon in the native schools, and such of them as are found there are, in consequence of the ignorance, carelessness and indolence of copyists in general, full of blunders, and in every way most incorrect and imperfect.

The whole of the books, however, in the Teloogoo and Carnatic schools, which are by far the most numerous in this district, whether they treat of religion, amusement or the principles of these languages, are in verse, and in a dialect quite distinct from that of conversation and business. The alphabets of the two dialects are the same, and he who reads the one can read, but not understand, the other also. The natives, therefore read these (to them unintelligible) books to acquire the power of reading letters in the common dialects of business; but the poetical is quite different from the prose dialect which they speak and write; and though they read these books, it is to the pronunciation of the syllables, not to the meaning or construction of the words, that they attend. Indeed few teachers can explain, and still fewer scholars understand the purport of the numerous books which they thus learn to repeat from memory. Every schoolboy can repeat *verbatim* a vast number of verses, of the meaning of which he knows no more than the parrot that has been taught to utter certain words. Accordingly, from studies in which he has spent many a day of laborious but fruitless toil, the native scholar gains no improvement, except the exercise of memory and the power to read and write on the common business of life; he makes no addition to his stock of useful knowledge, and acquires no moral impressions. He has spent his youth in reading syllables, not words, and on entering life he meets with hundreds

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and thousands of words in the common course of reading books, of the meaning of which he cannot form even the most distant conjecture; and as to the declension of a noun, or the conjugation of a verb, he knows no more than of the most abstruse problems in Euclid. It is not to be wondered at, with such imperfect education, that in writing a common letter to their friends, orthographical errors and other violations of grammar, may be met with in almost every line written by a native.

The Government could not promote the improved education of their native subjects in these districts more than by patronizing versions, in the common prose and spoken dialect, of the most moral parts of their popular poets and elementary works, now committed to memory in unintelligible verse. He who could read would then understand what he reads, which is far from the case at present. I am acquainted with many persons capable of executing such a task; and, in the Teloogoo language, would gladly superintend it as far as in my power at this distance from the Presidency.

The economy with which children are taught to write in the native schools, and the system by which the more advanced scholars are caused to teach the less advanced, and at the same time to confirm their own knowledge, is certainly admirable, and well deserved the invitation it has received in England. The chief defects in the native schools are the nature of the books and learning taught, and the want of competent masters.

Imperfect, however, as the present education of the natives is, there are few who possess the means to command it for their children. Even were books of a proper kind plentiful, and the master every way adequate to the task imposed upon him, he would make no advance from one class to another, except as he might be paid for his labonr. While learning the first rudiment, it is common for the scholar to pay to the teacher a quarter of a rupee, and when arrived as far as to write on paper, or at the higher branches of arithmetic, half a rupee per mensem. But in proceeding further, such as explaining books which are all written in verse, giving the meaning of sanscrit words, and illustrating the principles of the vernacular languages, such demands are made as exceed the means of most parents. There is therefore no alternative but that of leaving their children only partially instructed, and consequently ignorant of the most essential and useful parts of a liberal education: but there are multitudes who cannot even avail themselves of the advantages of this system, defective as it is.

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I am sorry to state, that this is ascribable to the gradual but general impoverishment of the country. The means of the manufacturing classes have been of late years greatly diminished by the introduction of our own European manufactures in lieu of the Indian cotton fabrics. The removal of many of our troops from our own territories to the distant frontiers of our newly subsidized allies has also, of late years, affected the demand for grain; the transfer of the capital of the country from the native governments and their officers, who liberally expended it in India, to Europeans, restricted by law from employing it even temporarily in India, and daily drawing it from the land, has likewise tended to this effect, which has not been alleviated by a less rigid enforcement of the revenue due to the state. The greater part of the midling and lower classes of the people are now unable to defray the expenses incident upon the education of their offspring, while their necessities require the assistance of their children as soon as their tender limbs are capable of the smallest labour.

It cannot have escaped the Government that of nearly a million of souls in this district, not 7,000 are now at schools, a proportion which exhibits but too strongly the result above stated. In many villages where formerly there were schools, there are now *none*; and in many others where there were large schools, now only a few children of the most opulent are taught, others being unable, from poverty, to attend, or to pay what is demanded.

Such is the state in this district of the various schools in which reading, writing and arithmetic are taught in the vernacular dialects of the country, as has been always usual in India, by teachers who are paid by their scholars. The higher branches of learning, on the contrary, have always in this country been taught in sanscrit, and it has, even in India, been deemed below the dignity of science for her professors to barter it for hire. Lessons in theology, astronomy, logic and law, continue to be given gratuitously, as of old, by a few learned Brahmins to some of their disciples. But learning, though it may proudly decline to sell its stores, has never flourished in any country except under the encouragement of the ruling power, and the countenance and support once given to science in this part of India has long been withheld.

Of the 533 institutions for education now existing in this district, I am ashamed to say not one now derives any support from the State. I have, therefore, received with peculiar satisfaction, the inquiries instituted by the Honorable the Governor in Council on

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this interesting subject, and trust that this part of India may benefit from the liberality which dictated the record of his intention to grant new funds when the same may be deemed expedient, and to restore to their original purpose all funds diverted from this source.

There is no doubt, that in former times, especially under the Hindoo governments, very large grants, both in money and in land, were issued for the support of learning. Considerable *yeomiahs*, or grants of money, now paid to Brahmins from my treasury, and many of the numerous and valuable Shotrium villages, now in the enjoyment of Brahmins in this district, who receive one-fourth, one-third, one-half, two-thirds, and sometimes the whole of their annual revenue, may, I think, be traced to this source. Though it did not consist with the dignity of learning to receive from her votaries hire, it has always in India been deemed the duty of Government to evince to her the highest respect, and to grant to her those emoluments which she could not, consistently with her character, receive from other sources; the grants issued by former Governments, on such occasions, contained therefore no unbecoming stipulations or conditions. They all purport to flow from the free bounty of the ruling power, merely to aid the maintenance of some holy or learned man, or to secure his prayers for the state. But they were almost universally granted to learned or religious persons, who maintained a school for one or more of the sciences, and taught therein gratuitously; and though not expressed in the deed itself, the duty of continuing such gratuitous instruction was certainly implied in all such grants.

The British Government, with its distinguished liberality, has continued all grants of this kind, and even in many cases, where it was evident that they were merely of a *personal* nature. But they have not, until now, intimated any intention to enforce the implied, but now dormant, condition of these grants. The revenue of the original grantee has descended without much injury to his heirs, but his talents and acquirements have not been equally hereditary; and the descendants of the original grantees will rarely be found to possess either their learning or powers of instruction. Accordingly, considerable alienations of revenue, which formerly did honor to the state, by upholding and encouraging learning, have deteriorated under our rule into the means of supporting ignorance; whilst science, deserted by the powerful aid she formerly received from Government, has often been reduc-

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ed to beg her scanty and uncertain meal from the chance benevolence of charitable individuals; and it would be difficult to point out any period in the history of India when she stood more in need of the proffered aid of Government to raise her from the degraded state into which she has fallen, and dispel the prevailing ignorance which so unhappily pervades the land.

At a former period, I recollect, that the Government, on the recommendation of the College Board, authorized the late Mr. Ross, then collector in the neighbouring district of Cuddapah, to establish experimental schools, with the view of improving the education of the natives; but the lamented death of that zealous and able public officer led to the abandonment of a plan to which his talents and popularity in the country were peculiarly calculated to give success. As secretary to the College and to your Board, I was at that time a warm advocate for such experiment; and if now allowed, I should gladly attempt to superintend some arrangement of that kind in my present provincial situation.

I would propose the appointment of an able *shastry* from amongst the law students at the college, with an addition to his existing pay of only 10 pagodas per mensem, to be placed under me at the principal station of the district, to instruct *gratuitously* all who choose to attend him, in the Hindoo sciences, in the Sanscrit language, and the native school-masters in the grammar of the Teloogoo and Carnataca tongues, being those vernacular here. Such a man I have no doubt that I could soon obtain from the college; for if one with all the requisite qualifications is not at present attached to the institution, there are many that I know there who can speedily qualify themselves for it in a very short time.

Subordinate to this man, and liable to his periodical visitations, I would recommend that 17 schoolmasters in Teloogoo and Carnataca be entertained at from 7 to 14 rupees each per mensem, to be stationed at the 17 Cusba stations under each of my amildars, and liable to their supervision to teach gratuitously these languages. Their lowest pay might be fixed at seven rupees, and might be raised by fixed gradations, with the increasing number of their scholars, as high as the maximum above stated. All of these might be selected from the best informed of the present schoolmasters here; but with reference to the low state of knowledge amongst the present persons of that class, most of them will pre-

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viously require instruction from the head *shastry* in grammar, &c. Though forbidden to demand money, all such persons should be allowed to receive any presents their scholars may offer to them, particularly those usual on entering or quitting school.

The highest expence of such an institution would be 273 rupees, the lowest 154 rupees per mensem. The first expense must necessarily be borne by Government, who alone are able to originate and at first support such a plan. But proper steps may be taken to engage in it the aid of the more opulent classes of the community, and, if practicable, to induce them, in due time, willingly to contribute to the support of such schools. Indeed, I have little doubt that the plan would soon carry with it the united consent, and grateful approbation, of the more respectable and well informed of the inhabitants at large.

It would also greatly accelerate the progress and efficiency of such schools, if Government were to appropriate a moderate annual sum to the purpose of preparing and printing at the College press, or elsewhere, suitable books for the use of these schools, in the prose or common dialects of the Teloogoo and Carnataca languages, on the principle stated by me in a former part of the letter: these should consist of selections from the most approved native school books, tables, proverbs, &c. now in use in the country, to the exclusion, in the first instance, of all new publications whatever. Books of a popular and known character, intelligible to all who read, would thus be procurable at a cheaper rate, and in a more correct state than at present, and the teachers might be employed to dispose of them at low prices.

If public examinations once a year were instituted before the head shastry, and small premiums or badges of distinction were distributed, for the purpose of rewarding, on such occasions, those who are most advanced, a suitable effect might be produced, and a powerful stimulus afforded to the students.

To cover the first expense of these schools, and to provide further for their gradual extension, if found advisable, without entailing any additional or new expense on Government, it might be provided that on the demise of any persons now holding yeomiahs, or alienated lands, a new inquiry be instituted; and that though the same may have been continued for more than one generation by the British Government, it be resumed, and carried to a new fund, to be termed the "School Fund," (to which the proposed expense should also be debited,) unless it is clearly stated in the body of the original

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grant to be "hereditary," or the intention of the ruling power at the time to make such grant hereditary be clearly proved to the satisfaction of Government.

If an arrangement of this kind is sanctioned, I have little doubt, that in a few years the receipts from such a fund would more than counterbalance the disbursements; but even if they did not, the charge would be comparatively trifling. The enactments of the British Parliament contemplate such a charge; the known liberality of the authorities in England on this subject ensure to it sanction; the Supreme Government have set the example; and the principal functionaries in the Madras territories ought perhaps to take blame to themselves that they have waited to be called upon before they stood forth as the organ of public opinion, in a matter of such importance and universal interest. I sincerely hope that it will not, as before, be allowed to sink into oblivion; but that the information submitted by the several collectors, will enable your Board and the Government, to mature, from their suggestions, some practical or at least some experimental plan for the improvement of education, and the support of learning in Southern India.

We have much pleasure in giving insertion in our Journal to the following letter and Regulations received from the Secretary to the Royal Asiatic Society.—Ed.

VI.—*The Royal Asiatic Society of Great Britain and Ireland.*
14, *Grafton Street, Bond Street, London, March* 1834.

To

The President and Members
of the Madras Literary Society
and Auxiliary Royal Asiatic Society.

Gentlemen,

1. I have the honor to acquaint you that an arrangement has recently been sanctioned by the Council of the Royal Asiatic Society, by which the publication of the Transactions of the Society will it is hoped be effected in a more convenient and satisfactory manner than has hitherto been the case; and this arrangement will be acted upon after the completion of the 3d Volume in *quarto*, of which the concluding portion is now in the press.

2. The mode intended to be adopted in future is that of publishing the Transactions of the Society in an *octavo* form, at intervals of three months; each number containing on an average about two

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hundred pages of letter press; with such illustrations as may be necessary, and two of such numbers to form a volume. The contents of the quarterly part are intended to comprise, first, original essays or papers like those inserted in the quarto Transactions of the Society; secondly, abstracts of such papers as it may not be deemed necessary to print entire; thirdly, analyses of works connected with the objects of the Society, which, from their scarcity, or other causes, it may be deemed proper to make more generally known; fourthly, notices of the proceedings of the Royal Asiatic Society, its Branch and Auxiliary Societies, of the Oriental Translation Committee, and other institutions, either British or Foreign, of the same nature, as far as they may be attainable; and, lastly, a record of miscellaneous information on any subject of literature, philosophy, science and art, having reference, to the East. Lists of the members; donations to the society, the Oriental Translation Fund, &c. will be given from to time as an appendix to the volumes. The publication of the work has been undertaken by a highly respectable bookseller for the society, but the entire management, control and superintendence remains with the Council as before, and will be governed by the same rules as those under which the Transactions of the society have hitherto been published, viz. Arts. LXII, LXIII, LXIV, and LXV of the printed Regulations of the Society, a copy of which is enclosed.

3. I shall now briefly indicate the advantages which it is presumed the new system of publishing will possess over that which has been followed up to the present time. It is assumed in the first place that the proposed plan will enable the Council to produce papers of a lighter and more diversified character than those which have appeared in the Transactions: the periods of publication also, being definite and frequent, will afford the means of rendering available many valuable contributions on matters of local or temporary, but nevertheless, of considerable importance, which have hitherto been entirely lost to the society for the want of some such channel to make them known; with respect to original communications therefore, it will be seen that much will be done in this way to remedy the inconveniences attendant on the former method of publication. The remaining divisions of the proposed arrangement are entirely new, and it is conceived that they will render the Society's Journal a repository for whatever of value or interest may require to be promulgated in connexion with the views of the Society. The researches of the learned into the history and customs of the nations of the

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East in ancient times, their investigations into the yet remaining monuments of early and extensive civilization, may here be placed in contrast with the labours of those who prefer to trace the progress of improvement in the present day, or suggest the means by which that improvement may be accelerated and enlarged; the deductions of philosophy may be compared with the results of experience, and the theories of the speculative produce schemes of practical utility.

4. But while the Council is thus endeavouring to give greater extension to the operations of the Society, and to increase its claims to public approbation and support in its path of usefulness, it feels that its ability to do so must depend entirely on its securing the earnest and effective co-operation of the members, and more particularly of those resident in the East. I am therefore desired to request that you will have the goodness to give all possible publicity to the subject of this letter, not only among the European residents in your Presidency, but also among such classes of the native community as may in your judgment be deemed likely to take an interest in the subject, and likewise avail yourselves of all convenient opportunities of urging such persons to communicate whatever information they may possess or be able to acquire relative to the philosophy, the metaphysics, the science, the history, the arts, the manners and customs of the inhabitants of the countries in which they reside.

5. In conclusion I have only to express the confidence with which the Council relies on the tried and acknowledged zeal invariably displayed by the Members of the Madras Literary Society and Auxiliary Royal Asiatic Society in the promotion of knowledge, that the peculiar facilities for aiding the exertions of the Society which are placed in their power by circumstances and situation, will be steadily applied in furtherance of that object, assuring them that in so doing they cannot fail to secure the grateful acknowledgements of the Society and the cordial approbation of all who duly value the welfare of our Empire in the East.

I have the honor to be,

Gentlemen,

Your most obedient

Very humble Servant,

H. Harkness,

Secretary.

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Copy of the Articles of the Regulations of the Royal Asiatic Society of Great Britain and Ireland respecting the publication of its Transactions.

Article LXII.—Communications and Papers, read to the Society, shall, from time to time, be published under the title of Transactions of the Royal Asictic Society of Great Britain and Ireland.

Article LXIII.—All Resident and Non-resident Members of the Society are entitled to receive, gratis, those parts or volumes of the Transactions published subsequently to their election; and to purchase, at an established reduced price, such volumes or parts as may have been previously published.

Article LXIV.—The Council are authorized to present copies of the Transactions to learned Societies and distinguished individuals.

Article LXV.—Every original communication presented to the Society becomes its property; but the author or contributor, may republish it twelve months after its publication by the Society. The Council may publish any original communication presented to the Society, in any way, and at any time judged proper, but if printed in the Society's Transactions twenty-five copies of it shall be presented to the author or contributor, when the volume or part in which it is inserted is published. Such papers as the Council may not see fit to publish may, with its permission, be returned to the author, upon the condition that if it be published by him a printed copy of it shall be presented to the Society.

(A true Copy.)

H. Harkness,

Secretary.

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METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Trought[on]					
	Sun Rise.	10 A. M.	Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	Aft. Noon.	2 P. M.	S. Set.	8 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°
1	29,874	29,916	29,890	29,868	29,850	29,872	29,904	85,9	92,3	96,0	93,4	87,7	89,7
2	,882	,902	,872	,850	,824	,820	,822	86,0	94,2	97,0	97,0	88,8	86,8
3	,822	,876	,860	,844	,799	,818	,840	88,5	94,6	98,0	94,9	89,0	85,7
4	,852	,888	,880	,860	,850	,876	,892	84,2	93,3	93,2	92,0	88,4	86,0
5	,902	,964	,938	,906	,888	,916	,930	84,1	90,0	90,3	90,0	86,4	85,7
6	,932	,952	,926	,886	,864	,888	,906	83,9	88,4	89,2	88,9	85,9	84,7
7	,894	,948	,922	——	,854	,866	,898	84,3	91,4	90,5	——	86,1	85,7
8	,876	——	,878	,864	,860	,890	,886	84,4	——	94,9	89,0	87,0	86,2
9	,880	,886	,876	,852	,848	,862	,886	84,0	86,4	91,6	90,4	86,2	84,9
10	,858	,884	,874	,842	,828	,886	——	83,5	90,8	91,6	91,5	87,9	87,[illegible]
11	,860	,906	,880	,858	,852	,870	....	84,8	91,6	96,5	94,3	89,0	87,8
12	,852	,902	,872	,830	,820	,824	....	85,8	92,3	94,6	97,4	91,0	89,7
13	,842	,860	,842	,822	,818	,852	....	86,4	89,9	93,6	95,1	88,9	87,0
14	,904	,902	,900	,886	,868	,862	....	83,0	83,5	86,5	90,0	86,2	85,0
15	,892	,928	,892	,853	,850	,952	....	83,7	88,3	90,0	92,0	89,1	88,3
16	,862	,872	,850	,838	,820	,818	....	85,3	89,3	92,6	92,8	88,7	87,0
17	,840	,874	,848	,814	,804	,826	....	83,6	89,0	94,9	98,4	84,4	82,7
18	,834	,864	,842	,830	,826	,840	,838	83,8	88,6	92,5	93,7	87,8	86,2
19	,842	,852	,840	,825	,808	,826	——	85,4	89,0	93,0	94,1	89,2	86,6
20	,840	,854	,838	,814	,808	,836	....	85,0	87,2	90,0	91,3	85,2	83,4
21	,832	,860	,842	,818	,808	,828	....	84,0	84,9	86,6	88,8	85,5	82,2
22	,834	——	,844	,820	,812	,822	....	82,4	——	88,1	89,8	85,0	83,3
23	,836	,878	,856	,830	,820	,828	,844	82,2	86,8	88,0	89,4	85,7	84,2
24	,844	,886	,874	,846	,818	,842	,856	82,5	87,1	89,8	90,0	85,1	84,3
25	,850	,866	,852	,826	,826	,848	,860	82,0	88,0	90,0	89,5	87,0	85,5
26	,850	,876	,872	,842	,862	,886	——	83,0	90,4	93,8	91,1	86,7	85,6
27	,890	,940	,900	,894	,892	,886	....	83,3	91,0	94,2	94,9	83,7	86,3
28	,902	,950	,932	,900	,876	,900	,902	83,0	87,0	90,5	93,0	87,8	86,2
29	,866	,908	,866	,842	,818	,834	——	84,5	87,6	92,0	93,8	88,0	87,7
30	,854	,892	,857	,830	,816	,838	....	84,2	88,0	91,0	93,6	90,8	87,0
Mean	29,863	29,899	29,874	29,844	29,830	29,857	29,880	84,2	89,3	92,0	92,4	87,3	85,9

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OBSERVATORY; FOR THE MONTH OF JUNE 1834.

	Dep. of wet bulb Thermometer.							Rain.				
	S. Rise	10 A. M.	Aft. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.	Evaporation.	Wind.	Remarks.
	o	o	o	o	o	o	o	Ins.	Ins.	Ins.		
1	5,3	11,3	12,0	8,6	6,7	7,2	7,2	0,007			sw. w. & s.	Mstly. clr. ltg. Th.
2	5,2	14,2	9,4	—	—	4,0	—				w. n. nw. & e.	[at night.
3	8,7	12,6	14,0	11,9	5,3	2,1	2,1				nw. e. & s.	
4	3,0	12,3	9,2	9,0	6,6	3,5	2,2			2,847	w. nw. s.	Mstly. clr. da.
5	2,3	5,5	4,8	6,0	3,4	2,9	2,3				s. se. & e.	& ngt. Lightng.
6	1,7	4,4	6,0	5,4	2,9	2,2	2,8				sw. se. & e.	
7	1,5	6,9	6,5	—	2,3	1,7	—				sw. e. & se.	[Lightng.
8	2,9	—	9,9	8,8	3,3	2,6	2,8		0,104		sw. nw. & se.	Mo. cl. & some rn.
9	4,0	5,4	8,1	6,4	3,2	2,1	2,2				w. s. se.	Mo. cl. Ltg. at nt.
10	3,0	8,0	6,1	7,0	4,0	3,5					s. se. & sw.	Do.
11	6,8	11,6	15,0	11,3	5,2	4,0				3,431	w. nw. se.	Mo. cl. Ltg. Th.
12	7,8	12,5	14,6	15,4	7,0	6,7					nw. & se.	Mo. cl. Ltg. & sm.
13	6,4	—	10,6	15,1	5,1	3,5		0,167			sw. nw. & e.	Do. [rn.
14	3,1	3,3	6,7	10,2	2,6	1,4			0,347		sw. & se.	Cl. dy. Ltg.
15	4,0	8,3	9,0	12,0	5,1	4,3					w. nw. & sw.	Do. Th.
16	7,4	10,0	12,6	10,8	4,9	3,2	....		0,028		w. nw. & se.	Do. sm. rn.
17	4,6	9,0	13,4	18,4	4,2	2,5	....	0,153	0,153		w. nw. s.	Cl. Th. Ltg. & rn.
18	5,8	8,5	8,0	12,2	4,1	4,0	2,3	0,146		2,903	w. & sw.	Cl. Ltg. Th.
19	7,5	9,8	11,0	12,4	6,2	4,6					w. & sw.	Do. Rain.
20	5,1	7,0	9,0	9,7	2,3	—		0,507	0,021		w. & sw.	Do. Do.
21	4,2	3,9	4,9	6,6	3,5	2,2		0,389			w. & sw.	Do. Do.
22	2,6	—	6,1	7,5	5,0	3,5		0,097			w. & sw.	Do. Do.
23	2,4	5,8	6,0	6,4	3,9	—	1,7	0,208			sw. w. & s.	Mo. cl. & Ltg.
24	3,5	7,6	9,8	7,0	3,6	2,8	2,0				sw. w. se.	Mostly clear.
25	2,1	8,0	9,5	6,5	6,0	4,5	1,8			2,021	sw. w. nw. s.	Do.
26	3,0	10,4	12,8	7,1	3,9	3,1					w. nw. se.	Do. [rn.
27	5,3	10,0	12,2	11,1	2,9	6,0					sw. & w.	Mo. cl. Ltg. Th. &
28	4,0	4,0	—	13,0	6,8	5,2	4,4	0,104			w. nw. se.	Do. Do.
29	4,5	9,6	12,0	—	—	—					sw. w. s.	Do. Do.
30	2,2	5,7	9,0	11,6	7,8	4,0					w. nw. & s.	Do. Do. rain.
n	4,3	8,4	9,6	9,2	4,6	3,6	2,8					

METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No 3. by Gilbert.							Standard Therm. by Troughto						
	Sun Rise.	10 A. M.	Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	Sun Rise.	10 A. M.	Aft. Noon.	2 P. M.	Sun Set.	8 P. M.	
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	29,850	29,950	29,880	29,844	29,820	29,850	——	84,0	87,2	89,9	92,4	86,7	85,8	--
2	,844	,890	,870	,848	,842	,864	29,866	84,0	89,3	93,2	95,4	86,2	84,8	84
3	,888	,918	——	,850	,854	,888	,920	83,8	87,5	--	93,0	86,2	85,8	85,
4	,900	,922	,901	,870	,852	,878	——	84,5	90,9	91,6	91,7	87,2	85,8	---
5	,884	,914	,906	,864	,842	,862	,882	80,0	79,6	81,5	83,2	83,2	82,0	81,
6	,854	,868	,856	,836	,830	,854	,866	79,0	83,7	86,9	88,0	85,0	83,2	82,
7	,856	,872	,868	,846	,848	,868	——	81,2	84,4	86,0	88,3	86,1	84,2	—
8	,890	,920	,890	,868	,850	,862	——	81,0	80,9	83.1	86,5	84,1	82,9	...
9	,86[illegible]	,914	,904	,840	,834	,852	,852	79,9	76,8	76,0	77,5	79,5	78,8	78,
10	,864	,872	,862	,836	,826	,848	,852	79,0	83,3	85,3	85,6	83,1	82,6	82,
11	,850	,868	,856	,830	,832	,856	——	80,0	84,5	87,7	87,0	84,2	84,0	—
12	,850	,866	,848	,824	,806	,820	,820	81,0	87,1	89,0	92,2	86,2	84,8	84,
13	,810	,836	,828	,808	,796	,796	,812	80,3	87,2	90,2	88,8	87,0	86,3	85,
14	,800	,868	,806	,791	,792	,796	——	83,7	88,0	90,6	92,0	87,2	86,0	—
15	,806	,850	,828	,814	,808	,822	,822	83,2	86,6	90,0	92,8	86,8	84,0	81,
16	,820	,860	,850	,832	,826	,852	——	84,0	86,8	86,4	86,0	84,0	83,6	---
17	,850	,898	,872	,850	,838	,838	....	81,9	79,4	80,0	80,7	80,4	79,5	...
18	,850	,890	,872	,836	,824	,842	....	79,9	80,0	81,1	82,9	82,6	81,6	..
19	,856	,876	,854	,836	,832	,836	....	82,2	84,4	86,8	87,8	82,0	82,9	...
20	,860	,886	,866	,840	,834	,869	,864	79,8	85,1	87,6	88,7	87,6	84,6	84,
21	,848	,888	,876	,848	,833	,862	——	83,4	83,8	84,5	85,2	85,1	84,6	
22	,864	,900	,894	,866	,860	,868	....	81,0	82,7	84,6	86,2	83,9	82,9	
23	,858	,878	,864	,836	,816	,850	....	80,7	82,5	83,1	84,6	84,6	84,1	
24	,816	,844	,826	,816	,790	,794	....	81,1	82,4	83,3	84,5	81,1	81,3	
25	,790	,808	,794	,770	,752	,760	....	79,8	83,5	85,5	85,9	85,2	84,7	
26	,768	,804	,796	,782	,776	,774	,782	81,8	86,4	88,0	89,9	89,0	85,8	85,
27	,800	,834	,805	,775	,762	——	,822	83,8	87,0	89,0	91,0	90,9	---—	87,
28	,824	,860	,842	,826	,818	,842	——	83,6	86,8	89,0	87,2	88,7	86,0	
29	,848	,870	,884	,820	,826	,868	....	84,0	85,3	88,2	90,0	85,8	84,0	
30	,852	,874	,850	,808	,814	,860	....	82,5	83,8	87,8	85,5	82,7	81,6	
31	,846	,888	,868	,840	,850	,870	....	82,4	83,0	85,4	86,2	86,0	82,7	
Mean	29,844	29,877	29,857	29,831	29,822	29,843	29,847	81,8	84,5	86,4	87,6	85,1	83,7	

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OBSERVATORY; FOR THE MONTH OF JULY 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	Aft. N.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		
1	0,0	3,3	5,9	8,4	2,9	2,0		0,118		3,153	W. SW. & NW.	Cl. dy. Ltg. & Sh.
2	0,2	5,5	9,4	11,9	2,7	1,6	1,2		0,062		W. NW. & SE.	Mo. cl. some rn.
3	0,1	3,9	—	9,0	2,0	1,3	0,1				SW. NW. & SE.	Do. d. clr. n. Li.
4	1,7	6,7	6,8	—	—	—					W. SE. & E.	M. clr. cl. at n. li. s. r.
5	—	—	—	3,0	2,7	2,1	1,7	0,069	0,021		N. W. SW. & SE.	M. cl. Th. l. & hy. rn.
6	3,0	3,7	6,7	6,5	3,8	3,0	2,3	0,660			W. & SW.	M. clr. some r. at n.
7	2,2	4,6	5,8	7,1	3,9	2,0		0,097			S. W. & SE.	M. cl. L. & hy. r. at n.
8	2,0	1,9	3,7	5,7	2,6	1,7		1,486	0,014		W. SW. & NW.	M. cl. L. & some r.
9	2,4	1,0	0,0	0,5	1,3	0,6		0,076	1,396	2,000	W. SW. & NW.	Mostly clear.
10	1,0	3,4	5,4	3,8	2,3	2,1	2,0				SW. W. & NW.	Do. Ltg.
11	0,5	3,5	4,3	3,8	3,0	2,8					W. NW. & SE.	Do. Do.
12	1,1	5,2	6,0	9,2	2,7	1,6	1,1				SW. W. & S.	Mo. clr. Li. & Th.
13	2,3	6,7	6,2	6,8	3,8	2,5	2,1				N. W. NW. & E.	M. clr. L. & Th. & Sh
14	3,8	8,0	9,6	11,5	3,7	2,2					W. NW. E.	M. cl. L. & some r.
15	5,2	9,9	10,0	12,8	2,9	4,0	4,8	0,049			SW. W. & S.	Do.
16	3,2	5,9	6,5	6,0	3,8	3,8				0,813	SW. W. & N.	Do.
17	2,9	1,4	1,5	11,7	0,9	0,5		0,826	0,500		SW. SE. S.	Cl. & r. with Ltg.
18	0,4	0,5	0,8	2,5	1,1	1,4		0,653	0,104		SE. & SW.	Do.
19	0,6	3,9	4,8	5,1	1,5	2,1					W. SW. W.	M. cl. L. & sm. r.
20	1,8	4,1	4,8	5,7	4,6	1,8	1,3	0,049	0,104		NW. SE. & S.	some rain,
21	2,4	4,8	3,9	4,0	3,3	1,6		0,042			W. & S.	
22	2,0	3,7	5,1	7,2	4,4	4,7					SW. & W.	
23	3,7	5,3	6,7	6,6	4,1	4,6				1,375	W. & SW.	Mo. cl. dy. &
24	4,3	4,4	4,3	5,1	1,9	3,1			0,151		SW. NW. & W.	Night Lightg.
25	3,8	5,4	7,0	7,6	6,2	—		0,014			SW. & W.	some rain,
26	5,8	8,1	9,0	9,7	—	3,3	5,4				SW. W. & SE.	
27	4,2	9,0	10,0	11,2	9,9	—	5,1				SW. W. & NW.	
28	6,6	8,8	9,7	6,4	6,5	4,0					S. W. NW.	[rn.
29	7,0	7,0	7,7	10,5	3,8	2,2					W. NW. W.	Cl. Th. Ltg. & hy,
30	5,3	5,4	7,8	5,7	2,7	2,1		0,590	0,375	2,361	SW. W. & NW.	Do. rn.
31	3,6	3,5	6,4	6,6	6,0	4,2		0,118			SW. W. & S.	Clo. Lightning.
Mean	2,8	4,9	6,1	6,7	3,5	2,5	2,5					

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METEOROLOGICAL REGISTER KEPT AT THE MADRAS

	Standard Barometer No. 3 by Gilbert.							Standard Therm. by Troughto						
	Sun Rise.	10 A. M.	Noon.	2 P. M.	Sun Set.	8 P. M.	10 P. M.	S. Rise.	10 A. M.	Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.
	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	Ins.	°	°	°	°	°	°	°
1	29,892	29,932	29,904	29,868	29,866	29,898	——	80,3	84,0	85,7	88,2	87,5	86,6	—
2	,914	,952	,920	,872	,852	,866	29,874	83,0	85,9	88,8	88,9	87,5	86,4	85,4
3	,872	,904	,864	,840	,822	,852	,860	83,0	86,2	88,5	90,8	90,9	89,3	88,6
4	,862	,884	,858	,832	,822	,848	,850	83,5	86,6	89,6	91,4	91,3	89,9	88,6
5	,844	,868	,844	,812	,816	,840	——	82,4	86,8	90,3	92,0	90,1	87,5	—
6	,856	,878	,846	,816	,834	,862	......	85,4	87,0	89,0	91,0	90,4	86,8	....
7	,876	,950	,924	,874	,856	,872	,906	84,5	86,4	90,0	92,8	91,7	88,8	87,6
8	,930	——	,952	,922	,900	,912	,952	85,0	--—	91,8	94,0	87,4	85,0	86,2
9	,954	,996	,968	,936	,920	,938	,960	83,7	89,0	92,0	90,7	88,2	85,9	84,8
10	......	,986	,980	,920	,916	,938	,990	--—	88,0	89,4	91,0	87,3	86,8	85,8
11	,960	30,024	,970	,926	,928	,952	,960	82,7	87,3	90,4	90,0	88,0	86,8	85,0
12	,966	,050	,974	,932	,950	,952	'960	83,8	86,8	89,8	89,7	86,6	84,4	83,4
13	,928	29,944	,934	,906	,892	,950	,936	82,4	88,8	89,0	89,0	86,5	84,4	82,9
14	,904	,926	,904	,882	,858	,898	,892	81,2	88,0	90,7	89,8	86,0	84,5	85,2
15	,878	,926	,882	,862	,892	,930	——	82,8	87,0	89,1	88,8	87,6	85,4	
16	,910	,952	,932	,880	——	,949	......	83,7	85,2	87,8	86,6	--—	84,4	
17	,890	,918	,912	,868	,852	,899	,914	83,0	85,0	87,0	86,9	86,8	84,4	82,0
18	,872	,918	,900	,850	,860	,880	,924	80,2	86,9	90,0	89,1	86,3	84,3	83,0
19	,904	,942	,914	,972	,856	,892	,900	81,0	84,1	88,7	86,9	83,9	83,0	81,0
20	,894	,908	,898	,858	,852	,882	,900	80,7	84,9	88,2	87,4	83,0	82,6	81,6
21	,864	,912	,896	,862	,852	,880	——	80,8	85,8	87,6	87,9	84,9	84,6	
22	,894	,942	,940	,924	,908	,952		79,5	80,9	82,0	83,0	82,7	81,2	
23	,910	,980	,938	,914	,858	,872		77,2	79,3	80,1	81,8	82,0	81,7	
24	,856	,888	,842	,826	,838	——		89,2	80,3	79,3	80,6	80,3	--—	
25	,832	,882	,851	,839	,830	,858		79,2	80,8	81,8	79,6	80,5	80,0	
26	,834	,862	,832	,816	,814	,832	,852	79,4	80,8	82,0	83,2	83,0	81,4	86,5
27	,816	,844	,824	,814	,804	,816	,836	48,7	82,9	85,9	85,4	84,4	83,7	84,0
28	,822	,834	,830	,800	,800	,828	——	80,4	86,2	87,0	85,9	81,5	83,0	
29	,820	,860	,828	,800	,798	,828		81,6	85,4	88,0	89,8	83,8	83,4	
30	,812	,850	,816	,802	,808	,838		81,2	82,6	84,8	85,1	82,8	81,5	
31	,818	,886	,856	,830	,836	,864		80,9	81,2	82,2	83,4	82,3	81,8	
Mean	29,877	29,923	29,897	29,865	29,856	29,886	29,910	82,0	85,0	87,1	87,7	85,8	84,6	84,8

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OBSERVATORY; FOR THE MONTH OF AUGUST 1834.

	Dep. of wet bulb Thermometer.							Rain.		Evaporation.	Wind.	Remarks.
	S. Rise.	10 A. M.	Noon.	2 P. M.	S. Set.	8 P. M.	10 P. M.	S. R.	S. S.			
	°	°	°	°	°	°	°	Ins.	Ins.	Ins.		
1	3,3	6,0	6,9	7,7	6,5	6,8	----				sw. & nw.	Cloudy.
2	5,5	7,7	8,8	8,9	7,0	7,4	8,0				w. nw. &sw.	Mostly cloudy.
3	6,9	8,4	8,5	9,3	9,0	9,8	9,0				w. & nw.	M. cl. clr. at nt.
4	8,5	9,4	10,0	12,0	11,3	10,9	9,6				w. nw. sw.	Mostly clear.
5	6,4	8,0	11,1	12,0	5,6	4,7					w. & nw.	Mostly cloudy.
6	5,9	9,0	9,0	9,8	8,4	5,3					w. sw. & w.	Mo. cl. Ltg. Th.
7	4,7	7,6	10,8	12,3	11,4	----	3,8				w. sw. &nw.	Do. clr. at nt.
8	7,0	----	12,1	12,2	4,6	2,8	3,6				w. & nw.	M. clr. & cl. at n.
9	5,8	10,1	12,5	8,7	6,2	4,4	3,3				w. & nw.	Do.
10	----	8,0	7,9	9,0	4,1	3,3	2,3		0,278		w. sw. &nw.	M. clr. r. in the m. [Ltg. Th.
11	3,7	6,9	8,4	6,5	5,0	3,8	3,0				nw. & se.	M. cl. clr. nt nt.
12	4,8	6,3	7,9	6,2	4,1	2,6	1,7				w. s. & ne.	M. clr. & Ltg.
13	4,4	7,3	6,0	5,5	4,0	3,9	2,9			3,056	w. se. s.	Do
14	3,7	7,5	8,4	6,8	4,8	3,5	3,2				s. sw. & se.	Do & Th.
15	5,8	7,5	6,8	5,3	4,2	3,6					w. e. & s.	M. cl. Th. & Ltg.
16	4,2	4,2	5,8	4,6	----	3,6					s. sw. & e.	Do.
17	3,0	5,8	7,0	6,9	6,8	4,2	3,0				s, sw. & se.	M. cl. & L. & Th.
18	3,2	6,7	8,0	5,5	3,5	3,8	3,5				w. nw. &sw.	Do. rn.
19	2,2	2,9	7,1	3,3	2,9	3,2	3,5	0,208			sw. & s.	M. cl. Do.
20	1,7	4,4	5,0	3,4	4,0	4,1	3,6			2,354	sw. se & e.	Do.
						3,1						
21	3,3	4,8	6,6	5,9	3,1						w. & se.	Cl: d. Do. & h. r.
22	2,0	1,9	2,7	3,0	1,9	1,6		2,194			nw. se. & s.	Do.
23	2,0	1,7	2,1	3,8	1,1	1,2					n. nw. & w.	Do,
24	1,7	1,3	1,3	1,1	0,5	----			0,382		nw. n. & se.	Do, rn.
25	0,7	1,3	1,8	0,6	0,7	0,0					w. n. & ne.	Do.
26	1,9	0,9	2,0	1,2	1,2	0,9	0,7				w. nw. s.	Do.
27	1,2	3,0	5,0	3,6	1,9	1,6	0,5			0,944	w. nw. se.	Do.
28	2,6	5,9	5,0	3,0	2,7	2,0					nw. & se.	M. fig. cl. L. & T. r.
29	2,1	3,9	6,0	7,3	3,0	2,4		0,035			w. nw. &sw.	M, cl. L. T. & h. r:
30	2,7	2,6	3,9	3,6	0,6	0,7		0,548	0,042		sw. w. &nw.	Cl. D. L. & T. & r.
31	1,3	2,4	2,4	3,4	3,5	3,0		0,409			nw. n. sw.	M, cl. Lt. & Thr.
Mean	3,7	5,4	6,7	6,2	4,5	3,7	3,8					

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The instruments with which the foregoing observations have been made, are placed upon a table about 4 feet above the ground in the western verandah of the Honourable Company's Observatary; which is situated in Longitude 5h. 21′ 9″ E: Latitude 13° 4′ 9″ N; at about two miles from the Sea and about 27 feet above the low water mark.

T. G. TAYLOR,

H. C. Astronomer.

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